Comparative morphemes are additive particles: English *-er/more* vs. Chinese *gèng*

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What are morphemes like English -*er*/*more* doing?

• Many languages (e.g., English, French) require the use of a comparative morpheme in the comparative use of gradable adjectives:

(1) a. Lucy is tall. Positive: tall

b. Lucy is taller than Mary is. Comparative: taller

(2) a. Lucy has many books. Positive: many

b. Lucy has more books than Mary does. Comp.: more

(3) French data

a. Jean est grand.

John be.3sg tall

'John is tall.'

'John is tall.' Positive: grand 'tall'

b. Jean est plus grand que Pierre. John be.3sG more tall what Peter. 'John is taller than Peter.'

Comp.: plus+grand 'taller'

What are morphemes like English -er/more doing?

• However, many other languages (e.g., Chinese, Japanese) don't make a distinction between the comparative vs. non-comparative use:

(4) Chinese data

a. Lèlè gāo ma? Lèlè tall Q 'Is Lèlè tall?'

Positive: gāo 'tall'

b. Lèlè bǐ Mǐmǐ gāo ma?
 Lèlè STDD Mǐmǐ taller Q
 'Is Lèlè taller than Mǐmǐ?'

Comp.: gāo 'taller'

(5) Japanese data

a. Rika-wa (se-ga) taka-i.
Rika-тор back-nom tall-pres
'Rika is tall.'

Positive: taka- 'tall'

b. Rika-wa Makoto-yori (se-ga) taka-i. Rika-тор Makoto-stdd back-nom tall-pres 'Rika is taller than Makoto.'

Comp.: taka- 'taller'

Research questions

- Does the meaning of comparison hinge on morphemes like *-er/more*?
- If not,
 - What lexical items are responsible for comparison?
 - ▶ Then what does -*er*/*more* do?
- How about languages like Chinese and Japanese?

Take-home messages

- Does the meaning of comparison hinge on morphemes like *-er/more*?
 - ► No.
- What lexical items are responsible for comparison?
 - Gradable adjectives, which encode (strict or non-strict) inequalities
- What does -er/more do?
 - They are additive particles like *another*, denoting an <u>increase</u> anaphoric to a contextually salient base item.
- How about languages like Chinese and Japanese?
 - In these languages, gradable adjectives encode inequalities in a strict way, making the use of an -er-like morpheme unnecessary.
 - These languages have optional morphemes:
 Chinese gèng and Japanese motto work like additive particle moreover,
 indicating a threshold with enhanced positiveness for the positive use of gradable adjectives.

Outline

- Comparison and the meaning of gradable adjectives
- Comparisons in English vs. Chinese
- English -er/more
- 4 Chinese gèng
- Concluding remarks

Canonical analysis: -er/more performs comparison

- A gradable adjective relates a degree and an entity.
- (6) $[tall]_{(d,et)} \stackrel{\text{def}}{=} \lambda d. \lambda x. \text{HEIGHT}(x) \ge d$ a relation between d and x \rightarrow the height of x reaches the degree d, i.e., x is tall to degree d
 - Major non-comparative uses of gradable adjectives:
- (7) [Lucy is POS tall] \Leftrightarrow HEIGHT(Lucy) $\geq d^{c}_{POS}$ Positive use (i.e., the height of Lucy reaches the contextual threshold of being tall.)
- (8) [Lucy is 5 feet 8 inches tall] $\Leftrightarrow \text{HEIGHT}(\text{Lucy}) \ge 5'8''$ Measure
- (9) [how tall is Lucy] $\Leftrightarrow \lambda d$. Height(Lucy) $\geq d$ Degree question

Canonical analysis: -er/more performs comparison

• Comparative morpheme -er/more performs comparison by expressing the relation '>' between two degrees.

(10) a.
$$\llbracket -\operatorname{er} \rrbracket_{\langle \langle dt \rangle, \langle dt, t \rangle \rangle} \stackrel{\operatorname{def}}{=} \lambda D_1.\lambda D_2.\operatorname{MAX}(D_2) > \operatorname{MAX}(D_1)$$

$$(\operatorname{MAX} \stackrel{\operatorname{def}}{=} \lambda D.\iota d \llbracket d \in D \land \forall d' \llbracket d' \in D \to d' \leq d \rrbracket \rrbracket)$$
(see e.g., Beck 2011)

b.
$$[-\text{er}]_{\langle\langle dt \rangle, \langle dt, t \rangle\rangle} \stackrel{\text{def}}{=} \lambda D_1. \lambda D_2. \exists d[d \in D_2 \land d \notin D_1]$$
 (see e.g., Schwarzschild 2008)

(11) $[Lucy is taller than Mary is tall] \Leftrightarrow Height(L) > Height(M)$

comparison standard

LF: [-er [λd .Mary is d-tall]] [$\lambda d'$.Lucy is d'-tall] (i.e., lambda abstraction happens at both the matrix and the *than*-clause, leading to two sets of degrees)

• However, there are empirical challenges ...

The use of *-er/more* is not always required for comparison

All uses of gradable adjectives involve comparison, but the use of
 -er/more is not always required.

I.e., -er/more is not a necessary component of comparison.

(12) a. [Lucy is POS tall] \Leftrightarrow HEIGHT(Lucy) $\geq d^c_{POS}$

Positive use

- b. [Lucy is 5'8" inches tall] ⇔ HEIGHT(Lucy)≥5'8" Measure
- с. $[how tall is Lucy] \Leftrightarrow \lambda d$.неіднт(Lucy) $\geq d$ Degree Q.
- d. $[[Lucy is as tall as Bill (is)]] \Leftrightarrow HEIGHT(Lucy) \geq HEIGHT(Bill)$ Equative
- e. $[[Lucy is taller than Mary (is)]] \Leftrightarrow HEIGHT(L)>HEIGHT(M)$

Comparative

Minimal pairs

• Minimal pairs indicate that the use of *-er/more* does not bring comparison, but rather affects (i) what constitutes the comparison standard and/or (ii) the size of the differential.

- (13) a. Mary is not tall. Lucy is POS tall. \sim HEIGHT(Lucy) $\geq d^{c}_{POS}$
- b. Mary is not tall. $\overline{\text{Lucy is taller.}} \sim \text{Height}(L) \geq \text{Height}(M)$
- (14) a. Compared to Mary, <u>Lucy is tall</u>. **Implicit comparison** \sim HEIGHT(Lucy) $\geq d^c_{POS}$
 - (i) Compared to 2-year-old toddlers, Lucy is tall.
 - (ii) (Even) compared to professional basketball players, Lucy is tall.
 - b. Compared to Mary, <u>Lucy is taller</u>. Explicit comparison \sim HEIGHT(L) \geq HEIGHT(M)

Antonyms

• The lexical meaning of gradable adjectives includes already inequalities, and antonyms encode inequalities of different directions.

(15) a.
$$[tall]_{(d,et)} \stackrel{\text{def}}{=} \lambda d. \lambda x. \text{HEIGHT}(x) \ge d$$

b. $[\![\mathsf{short}]\!]_{\langle d,et \rangle} \stackrel{\mathsf{def}}{=} \lambda d. \lambda x. \mathsf{Height}(x) \leq d$

Interim summary

- The essence of comparison is to establish inequalities.
- The lexical semantics of gradable adjectives already contains inequalities.
- Naturally, expressing the meaning of comparison should essentially be based on the meaning of gradable adjectives, not necessarily involving -er/more.

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English comparatives vs. Chinese comparatives

- HEIGHT(L)>HEIGHT(M) (16)Lucy is taller than Mary is.
 - h. Lèlè bĭ Mimi gāo. Lèlè STDD Mimi taller 'Lèlè is taller than Mimi.'

HEIGHT(L)>HEIGHT(M)

(12)[Lucy is POS tall] \Leftrightarrow HEIGHT(Lucy) $\geq d^{c}_{POS}$ a.

Positive use

- [Lucy is 5'8'' inches tall] \Leftrightarrow HEIGHT(Lucy)≥5'8''h. Measure \llbracket how tall is Lucy \rrbracket \Leftrightarrow λd.HEIGHT(Lucy)≥dDegree O. C.,
- [Lucy is as tall as Bill (is)]

 HEIGHT(Lucy)≥HEIGHT(Bill) d.

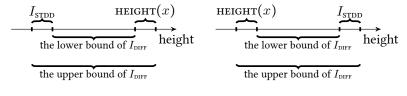
Equative

 $[Lucy is taller than Mary (is)] \Leftrightarrow HEIGHT(L)>HEIGHT(M)$ e.

Comparative

- Our proposal on the meaning of gradable adjectives:
 - English gradable adjectives encode a non-strict inequality, and with the use of *-er/more*, comparatives express a strict inequality.
 - Chinese gradable adjectives directly encode a strict inequality.

Lexical semantics of gradable adjective tall/gāo



The meaning of tall/gāo

The meaning of *short/ăi*

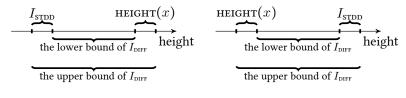
(17)
$$[tall] \stackrel{\text{def}}{=} \lambda I_{\text{DIFF}}.\lambda I_{\text{STDD}}.\lambda x.I_{\text{DIFF}} \subseteq [0, +\infty). \text{ HEIGHT}(x) \subseteq \iota I[I - I_{\text{STDD}} = I_{\text{DIFF}}]$$
 English non-negative presup.

(i.e., the height of x reaches the comparison standard, I_{STDD} . \sim the difference between them, I_{DIFF} , is non-negative)

(18)
$$[\![g\bar{a}o]\!] \stackrel{\text{def}}{=} \lambda I_{\text{DIFF}}.\lambda I_{\text{STDD}}.\lambda x. \underbrace{I_{\text{DIFF}} \subseteq (0, +\infty)}_{\text{positive presup.}}. \text{ Height}(x) \subseteq \iota I [I - I_{\text{STDD}} = I_{\text{DIFF}}]$$
 Chinese (i.e., the height of x exceeds the comparison standard, I_{STDD} .

(i.e., the neight of x exceeds the comparison standard, I_{STDD} \sim the difference between them, I_{DIFF} , is positive)

Lexical semantics of gradable adjective short/ăi



The meaning of tall/gāo

The meaning of *short/ăi*

(19)
$$[\![\text{short}]\!] \stackrel{\text{def}}{=} \lambda I_{\text{DIFF}}.\lambda I_{\text{STDD}}.\lambda x. \underbrace{I_{\text{DIFF}} \subseteq [0, +\infty)}_{\text{DIFF}}. \text{ HGHT}(x) \subseteq \iota I[I_{\text{STDD}} - I = I_{\text{DIFF}}]$$
 English

non-negative presup

(i.e., the height of x does not exceed the comparison standard, I_{STDD} . \sim the difference between them, I_{DIFF} , is non-negative)

(20)
$$[\![\check{\mathbf{a}}\mathsf{i}]\!] \stackrel{\text{def}}{=} \lambda I_{\text{DIFF}}.\lambda I_{\text{STDD}}.\lambda x.\underbrace{I_{\text{DIFF}} \subseteq (0,+\infty)}_{\text{DIFF}}. \text{ HEIGHT}(x) \subseteq \iota I[I_{\text{STDD}} - I = I_{\text{DIFF}}]$$
 Chinese

positive presup.

(i.e., the height of x is below / does not reach the comparison standard, I_{STDD} . \rightarrow the difference between them, I_{DIFF} , is positive)

The positive use of gradable adjectives

- In the positive use,
 - the comparison standard is the contextual threshold
 - the difference cannot be specified by a numerical value, but can be modified by modifiers like *very*, *quite*, etc.
- (22) [Lucy hen POS gāo] Chinese \Leftrightarrow Height (Lucy) $\subseteq \iota I[I [d_{POS}^c, d_{POS}^c] = \underbrace{(0, +\infty)}_{I_{DIFF}}]$ \Leftrightarrow Height (Lucy) $\subseteq (d_{POS}^c, +\infty)$ (i.e., the height of Lucy exceeds the contextual threshold of being tall)

Measurement sentences

- In measurement sentences,
 - the comparison standard is the absolute zero point, i.e., [0,0]
 - the difference is specified by a numerical value, e.g., 5'8'', 1.7m.
- (23) [Lucy is 5 feet 8 inches tall] English \Leftrightarrow HEIGHT(Lucy) $\subseteq \iota I[I [0,0] = [5'8'', +\infty) \cap [0,+\infty)]$ \Leftrightarrow HEIGHT(Lucy) $\subseteq [5'8'', +\infty)$

Comparatives

- In comparatives,
 - the comparison standard is from the meaning of the than-clause (or context)
 - the difference can by optionally specified by a numerical value, e.g., 3", 5cm.

(25) [Lucy is tall er than Mary is]
$$\Leftrightarrow \text{HEIGHT}(\text{Lucy}) \subseteq \iota I[I - \text{HEIGHT}(\text{Mary}) = (0, +\infty) \cap [0, +\infty)]$$

$$\Leftrightarrow \text{HEIGHT}(\text{Lucy}) \subseteq \iota I[I - \text{HEIGHT}(\text{Mary}) = (0, +\infty)]$$
(26) [Lèlè bǐ Mǐmǐ gāo]
$$\Leftrightarrow \text{HEIGHT}(\text{Lèlè}) \subseteq \iota I[I - \text{HEIGHT}(\text{Mǐmĭ}) = (0, +\infty)]$$

 \Leftrightarrow HEIGHT(Lèlè) $\subseteq \iota I[I - \text{HEIGHT}(Mimi) = (0, +\infty)]$

Comparison in English vs. Chinese

- Within our proposed view, comparison is universally conducted by gradable adjectives
 - For languages that require the use of -er in comparatives (e.g., English): gradable adjectives encode a non-strict inequality
 (In terms of degrees: '≥'; in terms of intervals: '[0, +∞)')
 - For languages that use the same form for the comparative and non-comparative uses (e.g., Chinese): gradable adjectives encode a strict inequality (In terms of degrees: '>'; in terms of intervals: '(0, +∞)')

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Parallelism between *-er/more* and *another*

• -er/more has an additive use similar to another (see also Greenberg 2010 and Thomas 2010):

Increase in the domain of entities: Additive use (27)

I ate an^x apple. Then I ate another^y (apple). a.

base item increase A^x girl, Sue, met another girl, Mary. b.

increase I ate two bars of chocolate. Then I ate (a bit) more.

> base item increase

base item

From the additive use to the comparative use of *-er/more*

- Additive use of *more*: in the domain of entities
- Comparative use of -er/more: in the domain of scalar values (i.e., degrees or intervals)
- Increase in the domain of entities: Additive use (27c)I ate two bars of chocolate. Then I ate (a bit) more. base item
- (28)Increase in the domain of scalar values: Comparative use
 - Mary is tall. Sue is tall er. Across sentences a. increase base item: HEIGHT(Mary) Sue is tall **er** than Mary is tall. Within the same sentence h. increase base item:

increase

HEIGHT(Mary)

More uses of *-er/more* and *another*

- -er/more and another
 - denotes an increase in the domain of entities or scalar values
 - presuppose there is a salient base that the increase is anaphoric to
- (29) Repetitive use of -er/more and another
 - a. Lucy is becoming taller and taller and taller.
 - b. Janice had a little lamb and another and another and another.
- (30) Accumulating increases along with a universal quantifier
 - a. Every year Mary wrote a more interesting book.
 - b. Everyday there is another story to write.

The anaphoricity of -er/more

- Additivity should be considered a phenomenon of QUD-based anaphoricity, indicating an extension of a previous salient answer in addressing the QUD
 - For the additive use in the domain of entities, *more / another* indicates an increase from a part to a whole.
 - For the comparative use in the domain of scalar values, -er/more indicates an increase from a lower to a higher scalar value.

(31) Additive use of *more*

Current question (CQ): What did you eat?

a. I ate two bars of chocolate. Then I ate (a bit) more.



b. #I didn't eat a bar of chocolate. Then I ate more.

(e.g., Roberts 1996/2012, Zeevat 2004, Zeevat and Jasinskaja 2007, Beaver and Clark 2009, Thomas 2011, Zhang and Ling 2021)

The anaphoricity of *-er/more*

- Additivity should be considered a phenomenon of QUD-based anaphoricity, indicating an extension of a previous salient answer in addressing the QUD
 - For the additive use in the domain of entities, *more / another* indicates an increase from a part to a whole.
 - For the comparative use in the domain of scalar values, -er/more indicates an increase from a lower to a higher scalar value.

(32) Comparative use of -er/more

Current question (CQ): How tall is Sue? Mary is not tall. Sue is tall er .

base item – a partial answer to the CQ: HEIGHT(Mary)

increase

(e.g., Roberts 1996/2012, Zeevat 2004, Zeevat and Jasinskaja 2007, Beaver and Clark 2009, Thomas 2011, Zhang and Ling 2021)

The semantics of English -er/more

- The semantics of English -*er*/*more* is not responsible for comparison.
- English -er/more is similar to another in being an additive particle, denoting an increase on a discourse-salient base.

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The optional presence of *gèng* in Chinese comparatives

- (33) Lèlè bǐ Mǐmǐ (gèng) gāo. Lèlè STDD Mǐmǐ MOREOVER tall 'Lèlè is taller than Mǐmĩ.'
 - The presence of *gèng* is optional.
 - Some scholars (Liu 2010, Chen 2023) claim that the semantic contribution of gèng is similar to English even, and the above sentence means that Lèlè is even taller than Mimĭ, indicating that Mimĭ is already tall.
 - Others (e.g., Guo 2022) claim that there is no obvious meaning distinction between the sentence with vs. without *gèng*.

What is special about *gèng*

- The use of *gèng* is incompatible with numerical differentials (see Ma 2019, Zhang 2023).
- (34) * Lèlè bǐ Mǐmǐ gèng gāo wǔ límǐ. Lèlè STDD Mǐmǐ MOREOVER taller five cm Intended: 'Lèlè is 5 cm taller than Mǐmǐ.'
 - gèng also has an additive use:
- (35) Jīnqián măi-bú-dào yŏu-yì, gèng măi-bú-dào àiqíng money buy-NEG-get friendship MOREOVER buy-NEG-get love 'Money cannot buy friendship. Moreover, it cannot buy love.' → Love exceeds friendship in being unable to be bought with money.

More observations on Chinese gèng

- The use of *gèng* is reminiscent of implicit comparison and the use of *moreover*.
- (36) a. Lèlè bǐ Mǐmǐ g**èn**g gāo. Lèlè STDD Mǐmǐ MOREOVER tall 'Lèlè is taller than Mǐmǐ.'
- (37) a. Jīnqián mǎi-bú-dào yǒu-yì, gèng mǎi-bú-dào àiqíng money buy-neg-get friendship moreover buy-neg-get love 'Money cannot buy friendship. Moreover, it cannot buy love.'
 - Money cannot buy friendship. Moreover, it cannot buy love.

 ∼ The preciousness of love reaches a threshold that the preciousness of friendship doesn't.

Chinese *gèng* is also an additive particle

- Our proposal:
 - With the use of gèng, the use of a gradable adjective is essentially a
 positive use (like the one in implicit comparison).
 - \star Thus the use of *gèng* is never compatible with numerical differentials.
- [gèng / moreover](p)
 - asserts the prejacent p
 - presupposes that the prejacent p and alternatives are associated with scalar values on a scale, and compared with alternatives, p exceeds a positive level that alternatives don't.
- (36) a. Lèlè bǐ Mǐmǐ **gèng** gāo. Lèlè STDD Mǐmǐ MOREOVER tall 'Lèlè is taller than Mǐmǐ.'
- (37b) Money cannot buy friendship. Moreover, it cannot buy love.

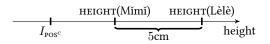
Comparison can be compatible with various additive particles

- The use of *-er/more* in English comparatives is similar to the use of *another*.
- The use of Chinese *gèng* is similar to English *moreover*, making the positive use of a gradable adjective like implicit comparison.
- How about other particles?

Chinese gèng vs. Chinese hái



[Lèlè bǐ Mǐmǐ gèng gāo]: Compared to Mǐmǐ, Lèlè is tall.



[Lèlè bǐ Mǐmǐ hái gāo (5cm)]: Lèlè is even (5 cm) taller than Mǐmǐ.

• Presumably, the semantics of Chinese *hái* is similar to English *even* (see Greenberg 2018, Zhang 2022 for a scalarity-based view on *even*).

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Concluding remarks

- Comparison / inequality is universally conducted by gradable adjectives, which encode (strict or non-strict) inequalities.
 - English gradable adjectives encode a non-strict inequality.
 - Chinese gradable adjectives encode a strict inequality, making it unnecessary to use an *-er-*like morpheme in comparatives.
- English morpheme -*er*/*more* is an additive particle like *another*, denoting an increase anaphoric to a contextually salient base item.
- Languages like Chinese also have optional morphemes in comparatives.
 - In particular, Chinese gèng works like additive particle moreover, indicating a threshold with enhanced positiveness for the positive use of gradable adjectives.

Thank you!

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For the manuscript of this project, please see https://ling.auf.net/lingbuzz/oo8122

Selected references I

- Beaver, David I., and Brady Z. Clark. 2009. Sense and sensitivity: How focus determines meaning. John Wiley & Sons. https://doi.org/10.1002/97814443041760pen_in_new.
- Beck, Sigrid. 2011. Comparative constructions. In *Semantics*, ed. Claudia Maienborn, Klaus von Heusinger, and Paul Portner, volume 2, 1341–1390. Berlin, Boston: de Gruyter. https://doi.org/10.1515/9783110255072.1341.
- Chen, Zhuang. 2023. Associating with covert focus. In *The Workshop on Theoretical East Asian Linguistics*, volume 13. https://sites.google.com/ntnueng.tw/teal13/program/program-day-2.
- Cresswell, Max J. 1976. The semantics of degree. In *Montague grammar*, ed. Barbara Partee, 261–292. New York: Academy Press. https://doi.org/10.1016/B978-0-12-545850-4.50015-7.
- Greenberg, Yael. 2010. Additivity in the domain of eventualities (or: Oliver twist's more). In Sinn und Bedeutung, volume 14, 151–167.
 - https://ojs.ub.uni-konstanz.de/sub/index.php/sub/article/view/465.
- Greenberg, Yael. 2018. A revised, gradability-based semantics for even. *Natural Language Semantics* 26:51-83. https://doi.org/10.1007/s11050-017-9140-0.
- Guo, Rui. 2022. The semantic analysis of adverbs "HAI" and "DOU" in Chinese comparative constructions. *Journal of Shanxi University (Philosophy & Social Science)* 45:62–72. https://doi.org/10.13451/j.cnki.shanxi.univ(phil.soc.).2022.05.007.
- Heim, Irene. 1985. Notes on comparatives and related matters. https://semanticsarchive.net/Archive/zc0ZjYOM/Comparatives%2085.pdf, unpublished ms., University of Texas, Austin.
- Hellan, Lars. 1981. Towards an integrated analysis of comparatives. Tübingen: Narr.

Selected references II

- Kennedy, Christopher. 1999. Projecting the adjective. New York: Routledge. https://doi.org/10.4324/9780203055458.
- Kennedy, Christopher. 2007. Modes of comparison. In *Chicago Linguistic Society*, volume 43, 139–163. https:
 - //semantics.uchicago.edu/kennedy/classes/w11/comparatives/docs/kennedy07.pdf.
- Liu, Chen-Sheng Luther. 2010. The Chinese <code>geng</code> clausal comparative. <code>Lingua</code> 120:1579–1606. https://doi.org/10.1016/j.lingua.2009.09.005.
- Ma, Zhen. 2019. 20 lectures on function words in Modern Chinese. Shanghai: The Commercial Press.
- Roberts, Craige. 1996/2012. Information structure: Towards an integrated formal theory of pragmatics. Semantics and pragmatics 5:6:1-69. https://doi.org/10.3765/sp.5.6.
- Schwarzschild, Roger. 2008. The semantics of comparatives and other degree constructions. Language and Linguistics Compass 2:308–331. https://doi.org/10.1111/j.1749-818X.2007.00049.x.
- von Stechow, Arnim. 1984. Comparing semantic theories of comparison. *Journal of semantics* 3:1-77. https://doi.org/10.1093/jos/3.1-2.1.
- Thomas, Guillaume. 2010. Incremental more. In Semantics and Linguistic Theory, volume 20, 233–250. https://doi.org/10.3765/salt.v2010.2558.
- Thomas, Guillaume. 2011. Another additive particle. In *Semantics and Linguistic Theory*, volume 21, 634–651. https://doi.org/10.3765/salt.v21i0.2589.
- Zeevat, Henk. 2004. Particles: Presupposition triggers, context markers or speech act markers. In *Optimality theory and pragmatics*, 91–111. Springer. https://doi.org/10.1057/9780230501409_5.

Selected references III

- Zeevat, Henk, and Katja Jasinskaja. 2007. And as an additive particle. In Language, representation and reasoning. Memorial volume to Isabel Gómez Txurruka, 315-340. University of the Basque Country Press. https://idsl1.phil-fak.uni-koeln.de/sites/IDSLI/dozentenseiten/ Jasinskaja/zeevat_jasinskaja_2007.pdf.
- Zhang, Linmin. 2022. The presupposition of even. In Semantics and Linguistic Theory, volume 32, 249-269. https://doi.org/10.3765/salt.v1i0.5355.
- Zhang, Linmin. 2023. Degree expressions in Chinese. In Oxford research encyclopedia of linguistics. Oxford University Press. https://doi.org/10.1093/acrefore/9780199384655.013.906.
- Zhang, Linmin, and Jia Ling. 2021. The semantics of comparatives: A difference-based approach. *Journal of Semantics* 38:249–303. https://doi.org/10.1093/jos/ffab003.