

Clausal subordination and coordination in Mandarin Chinese noun phrases

Qianqian /tɕʰjɛn51 tɕʰjɛn3/ Ren /ɿɛn35/

The Chinese University of Hong Kong

The context

- ❖ Unifying noun complement clauses (NCCs) and relative clauses (RCs)
 - NCCs as RCs/modifiers
 - Complex event nominals versus object/result nominals (Grimshaw, 1990; Moulton, 2009; Stowell, 1981)
 - The *CONT* function (Moulton, 2009) and embedding under attitude verbs (Elliott, 2017; Kratzer, 2006)
 - $\lambda x. CONT(x) = \lambda w. \text{John is in Paris in } w.$
 - Relativization of event (Aboh, 2005), force (Arsenijević, 2009) or propositional individuals (Jenks, 2014)
 - RCs as complement clauses (Kayne, 1994)
 - General noun modifying clausal constructions (Matsumoto, 1988; Matsumoto, Comrie, & Sells, 2017)
 - Chinese, Japanese, Korean, Sakha ...
 - [Mimi bàlǐng] de yáoyán/ tóngxué/ shēngyīn
[Mimi bully] de rumor/ classmate/ sound
'the rumor that Mimi bullied someone' (content clause – content noun)
'the classmate that Mimi bullied' (relative clause – head noun)
'the sound of Mimi bullying someone' (so-called gapless relative – relational noun)
- ❖ The proposal that NCCs and RCs are clearly distinguished in Mandarin (C.-T. J. Huang, 2016)

	NCC	RC
▪ Iteration	No	Yes
▪ Long distance	No	Yes
▪ Nominalization	No	Yes
▪ NP ellipsis	No	Yes
▪ The <i>suo</i> particle	No	Yes
• [Mimi suǒ bàlǐng] de yáoyán*/tóngxué [Mimi suo bully] de rumor*/classmate		
	NCC: Intended: 'the rumor that Mimi bullied someone'	
	RC: 'the classmate that Mimi bullied'	
▪ Ordering	an NCC must stay close to the head noun	
• [wǒ hěn shúxī de] [Mimi bàlǐng de] yáoyán/tóngxué [I very familiar de] [Mimi bully de] rumor/classmate		
	NCC: 'the rumor that Mimi bullied someone that I know well'	
	RC: 'the classmate that Mimi bullied that I know well'	

- [*Mimi bàling de*] [*wǒ hěn shúxī de*] *yáoyán**/*tóngxué*
[Mimi bully de] [I very familiar de] rumor*/classmate
 - Coordination an NCC and an RC cannot be coordinated
- ❖ Ruling out iteration syntactically or semantically:
- Equative sentences (Higgins, 1973; Mikkelsen, 2005: pp. 112-117)
 - 1) Equative sentences and ‘inversion’:
 - a) The fact that Mr. Angel is James Windibank and James Windibank is Mr. Angel will definitely devastate Miss Sutherland.
 - b) *The fact that Mr. Angel is James Windibank that James Windibank is Mr. Angel will definitely devastate Miss Sutherland.
 - c) The discovery that Hesperus is Phosphorus and Phosphorus is Hesperus ...
 - d) *The discovery that Hesperus is Phosphorus that Phosphorus is Hesperus ...

Outline

- Coordination of prenominal clauses (NCCs vs. RCs)
- DP analysis of (some) complement clauses in Mandarin

Clausal subordination in Mandarin noun phrases

- ❖ On Mandarin noun phrase structure:
- Demonstrative – Numeral – Classifier – Noun
 nà sān běn shū
 that three Cl book
 ‘those three books’
 - Prenominal elements (C.-T. J. Huang, Li, & Li, 2009)
 - Pre-demonstrative, post-demonstrative and pre-classifier, or post-classifier
 Demonstrative – Numeral – Classifier – Noun
 ↑ ↑ ↑
 - The *de* particle
 - Introduce a prenominal clause (NCC, RC, gapless RC)
 - Possessive *Mimi de shū* ‘Mimi’s book’
 - Adjective *piányì de shū* ‘cheap book’
 - Also used in other domains: introducing adverbs, as a sentence final particle
 - *De* has been analyzed as a marker of subordination or modification (C.-T. J. Huang, 1982), a complementizer (Cheng, 1986), a classifier (Cheng & Sybesma, 2009) (or some other type of functional head projecting along the DP-NP spine), a linker (Dikken & Singhapreecha, 2004), a nominalizer (C. N. Li & Thompson, 1981) and a type-shifter (S.-Z. Huang, 2006; Rubin, 2003).

Clausal coordination in Mandarin noun phrases

- ❖ The observation: while RCs allow coordination below or above *de*, NCCs allow coordination below *de* only.

2) Conjunction:

a) NCC:

[Mīmi yào cízhī] (**de*) hé [Lili yào huàn xiàngmù-zǔ]
 [Mimi will resign](**de*) and [Lili will change project-team]
de chuányán
de rumor

‘the rumor that Mimi will resign and the rumor that Lili will be assigned to another project’

b) RC:

[xiàndàihuà bǐjiào chí] (*de*) hé [fāzhǎn bǐjiào
 [modernization relatively late] (*de*) and [develop relatively
 màn] *de dìfāng*
 slow] *de place*

‘places where modernization started relatively late and where development is relatively slow’

- ❖ Different *des* (Y. A. Li, 2012): two *e*’s in Taiwanese and two *de*’s in Mandarin:

- Taiwanese: RC/adj *e e* N

- Mandarin:

- NCC [*de* N]
- [RC *de*] [~~*de*~~-N] (obligatory haplology)

- ❖ Against *de* as a functional head projecting along the DP-NP spine.

- The contrast above should not be interpreted as suggesting that the *de* attached to an NCC forms a constituent with the head noun.
- Arguments have been raised against analyzing *de* as a determiner, as a classifier, or as a functional head projecting along the DP-NP spine in principle (Aoun & Li, 2003; Pan & Lu, 2013; Tang, 2011; Zhang, 2012).
- Evidence I: Coordination of *de*-N sequences is impossible in any case, which would be unexpected should *de* form a constituent with the head noun. That *de*-N sequences cannot be coordinated cannot be explained away by saying that *de* requires to phonologically cliticize to the element preceding it; the classifier, a head projecting along the DP-NP spine and requiring to phonologically cliticize to the element preceding it, nevertheless allows coordination of Cl-N sequences.

3) Coordination of *de*-N sequences and of Cl-N sequences:

a) **de*-N and *de*-N:

wǒtīngshuō-le [Mīmi yào cízhī] *de* yìcè hé
 I hear-Asp [Mimi will resign] *de* surmise and
 (**de*) *chuányán*
 (**de*) rumor

'I heard about the surmise and rumor that Mimi will resign'

b) CI-N and CI-N:

kàn-zhe dāng [gè jiàoxùn] hé [gè lèhe] ba.
 watch-Asp treat...as [CI lesson] and [CI fun] SF.Prt.
 'Just watch it as if it is a lesson and a joke.' (Google)

4) Distribution of the bare CI (i.e., without a numeral or demonstrative):

a) *zuijìn zuò-le [gè mèng] hěn kǒngbù*
 recently do-Asp [CI dream] very scary

'had a dream recently and it's very scary' (BCC corpus, modified)

b) *[(zhè/nà) gè mèng] hěn kǒngbù*
 [(this/that) CI dream] very scary

'the dream is very scary'

➤ Evidence II: When the noun complement clause is fronted (assuming phrasal/clausal movement within the noun phrase rather than base-generation at different sites), *de* cannot be left behind.

5) *nà-gè [rénlèi yǔyán dútè zài nǎlǐ] de wèntí*
 that-CI [human language unique at where] *de* question
 'that question of where the uniqueness of human language resides'

6) *[rénlèi yǔyán dútè zài nǎlǐ] de nà-gè wèntí*
 [human language unique at where] *de* that-CI question

7) **[rénlèi yǔyán dútè zài nǎlǐ] nà-gè de wèntí*
 *[human language unique at where] that-CI *de* question

❖ Against a conjunction-reduction analysis.

➤ Evidence I: Interaction with quantifiers/numerals

8) Quantifiers and numerals

a) RC:

[xīnjiàn de] hé [zhèngzài jiànshè zhōng de] shí-èr-gè
 [new-built *de*] and [Asp build in *de*] ten-two-CI
 mián-fǎngzhī-chǎng
 cotton-textile-factory

'twelve cotton mills that are newly built or under construction' (12 cotton mills in total)

Not: '(twelve) cotton mills that are newly built and 12 cotton mills that are under construction' (more than 12 cotton mills in total) (BCC corpus, modified)

b) NCC:

["huìsù hé dìguī" tǐxiàn zài nǎlǐ] hé [zěnmē
 ["backtracking and recursion" reflect at where] and [how
tǐxiàn] de liǎng-gè wèntí
 reflect] *de* two-CI question

'the two questions of where "backtracking and recursion" are reflected and how they are reflected' (two questions, not four questions) (Google)

- Caveat: across-the-board movement
 - [RC *de ec* and RC *de ec*] Numeral/Quantifier N
- Evidence II: ‘NCC *de*’ sequences are ungrammatical: NP ellipsis is not possible for the NCC (C.-T. J. Huang, 2016).
- 9) *[*Mīmi cízhī de xiāoxi bǐ [Anqí líkā] de gèng ràng wǒ jīngyà.*
 *[Mimi resign] *de* news than [Angel leave] *de* more let I surprised.
 ‘The news that Mimi resigned surprised me more than the one about Angel’s leaving.’
- ❖ Explanation for the contrast in 2):
 - For the RC’s part:
 - Following the Modifier head/type shifter analysis of *de* following the RC (Rubin, 2003), what happens with RC coordination is, coordination can happen at the level of RC before feeding into the type shifter or at the level of the Modifier phrase, thanks to the recursively defined Boolean and non-Boolean AND (Gazdar, 1980; Krifka, 1990; Link, 1983).
 - $[[\text{Mod}]] = \lambda P_{\langle e, t \rangle}. \lambda Q_{\langle e, t \rangle}. \lambda x_e. P(x) \wedge Q(x)$. Turns a predicate into a modifier; covert in English, overtly spelled out as *de* in Mandarin.
 - $\text{AND}_B = \lambda \alpha_{\langle \sigma, \tau \rangle}. \lambda \beta_{\langle \sigma, \tau \rangle}. \lambda \gamma_\sigma. \alpha(\gamma) \wedge \beta(\gamma)$.
 - $\text{AND}_{NB} = \lambda \alpha_{\langle \sigma_1 \dots \sigma_n, \tau \rangle}. \lambda \beta_{\langle \sigma_1 \dots \sigma_n, \tau \rangle}. \lambda \gamma_1 \sigma_1 \dots \gamma_n \sigma_n. \exists \gamma_1', \gamma_1'' \dots \gamma_n', \gamma_n''.$ $\gamma_1 = \gamma_1' \oplus \gamma_1'' \wedge \dots \wedge \gamma_n = \gamma_n' \oplus \gamma_n''.$ $\alpha(\gamma_1') \dots (\gamma_n') \wedge \beta(\gamma_1'') \dots (\gamma_n'')$.
 - For the NCC’s part:
 - The function of *de* is to link the NCC to the head noun; therefore, it has to be attached to the largest constituent, that is, being above coordination.
 - Interaction between the linker and coordination in unrelated languages:
 - In Ndebele, the coordination site must be below the linker (Pietraszko, 2019).
 - Phonological insertion: Mandarin *de* and Japanese *no* (Kitagawa & Ross, 1982), Persian *ezafe* (Ghomeshi, 1997)

The DP analysis of complement clauses

- ❖ Categorical selection between the coordinator and the coordinates (Aoun & Li, 2003; Zhang, 2009). Two conjunctors: *hé* and *bìngqiě/érqiě* (Lv, 1980). They also differ in the resulted interpretation: *hé* is compatible with both intersective and sum readings, while *bìngqiě/érqiě* is compatible with the intersective reading only.
 - *Hé*:
 - Arguments
 - Predicates
 - Clauses (restricted - embedded)
 - *Bìngqiě/érqiě*:
 - *Arguments
 - Predicates

- Clauses (restricted - matrix)

10) Noun arguments conjoined by *hé*

[lǎoshī] **hé** [tóngxué] dōu zànchéng
[teacher] and [student] DOU approve
'both the teacher(s) and the student(s) approved'

11) Predicates conjoined by *hé*

shìwù zìrán-ér-rán-de [fāshēng] [fāzhǎn] **hé** [xiāowáng]
matter automatically [happen] [develop] and [perish]
'everything automatically happens, develops and perishes'

12) Declaratives conjoined by *hé*: *matrix; ^{ok}embedded

*(dào xiànzài hái yǒurén xiāngxìn) [tàiyáng rào
*(to present still exist-people believe) [sun surround
dìqiú zhuàn] **hé** [quánqiú biànnuǎn shìjiǎ xīnwén]
earth rotate] and [global warming be fake news]
'(even to this day there are still people believing that) the sun is rotating around the earth and global warming is fake news' (Google, modified)

13) Interrogatives conjoined by *hé*: *matrix; ^{ok}embedded

*(zhuānjiā jiěshì-le) [wèishénme yào xué-huì lājī
*(expert explain-Asp) [why must learn-know refuse
fēnlè] **hé** [zěnyàng yǒuxiào-de jìnxíng lājī fēnlè]
classification] and [how effectively conduct refuse classification]
'(the expert explained) why one must learn to do refuse classification and how to do it effectively' (Google, modified)

➤ *Hé*: Non-sentential conjunct

14) *Noun arguments conjoined by *bìngqiě/érqiě*

*[jiàoshì] **bìngqiě/érqiě** [zǒuláng] dōu hěn gānjìng
*[classroom] and [corridor] DOU very clean
'both the classroom and the corridor are very clean'

15) Predicates conjoined by *bìngqiě/érqiě*

jiàoshì [gānjìng] [míngliàng] **bìngqiě/érqiě** [wēnnuǎn]
classroom [clean] [bright] and [warm]
'the classroom is clean, bright and warm'

16) Declaratives conjoined by *bìngqiě/érqiě*: matrix or embedded¹

(wǒ rènwéi) [tā hěn cōngmíng] **bìngqiě/érqiě** [tā hěn
(I think) [he very intelligent] and [he very
yònggōng]
hard-working]

'(I think that) he is very intelligent, and he is very hard-working'

17) Interrogatives conjoined by *bìngqiě/érqiě*: matrix only

¹ Differences between CP coordination and IP coordination (Bassi & Bondarenko, 2020).

- a) [rén wèishénme huì mèngyóu ne?] **bìngqiě/érqiě**
 [people why will sleepwalk SF.Prt?] and
 [wèishénme mèngyóu shí bù-néng lìjí bèi jiào-xǐng?]
 [why sleepwalk time Neg-can immediately Psv wake up?]
 ‘Why do people sleepwalk? And why can’t they be immediately woken up when sleepwalking?’ (Google)
- b) zhuānjiā jiěshì-le [rén wèishénme huì mèngyóu]
 expert explain-Asp [people why will sleepwalk]
 ***bìngqiě/érqiě/hé** [wèishénme mèngyóu shí bù-néng
 and [why sleepwalk time Neg-can
 lìjí bèi jiào-xǐng]
 immediately Psv wake up]
 ‘the expert explained why people sleepwalk and why they can’t be immediately woken up when sleepwalking’

➤ *Bìngqiě/érqiě*: Non-argumental conjunct

❖ Hypothesis:

- Because *hé*, but not *bìngqiě/érqiě*, can be used to connect DPs, and (at least some) embedded clauses are DPs, *hé*, but not *bìngqiě/érqiě* can be used to connect embedded (interrogative) clauses.
- Evidence I: Correlation between conjunct selection and argument selection by embedding predicates in Mandarin
 - Attitude verbs: *think*, *say* vs. *believe* (non-rogative), *know* (responsive)
 - *Think*, *say*: Parenthetical expressions (*you think*), semantically bleached verbs, opinion verbs, or bridge verbs and license “extraction” of *wh*-adjuncts (Lin, 1992; McCawley, 1994; Tsai, 1994).
 - Tsai (1994): non-bridge verbs select nominals while bridge verbs cannot:

18) Selectional properties of attitude verbs:

- a) *Think*: *DP
 *wǒ rènwéi/juéde [DP zhè shì]
 *I think/feel [DP this matter]
 Intended: ‘I thought about this matter.’
- b) *Believe*: ^{ok}DP
 tā xiāngxìn [DP nà-gè yáoyán]
 he believe [DP that-CI rumor]
 ‘he believes that rumor’
- c) *Know*: ^{ok}DP
 tā zhīdào [DP nà-gè shìshí]
 she know [DP that-CI fact]
 ‘she knows that fact’

19) Selection of conjunct:

- a) *Think*: *hé** versus *bìngqiě/érqiě*
 tā rènwéi/juéde [tàiyáng wéirào dìqiú zhuàn]

he think/feel [sun surround earth rotate]
hé/bìngqiě/érqiě* [quánqiú biànnuǎn shì jiǎ xīnwén]
 and [global warming be fake news]
 'he thinks that the sun rotates around the earth and global warming is fake news'

b) *Believe: hé/bìngqiě/érqiě*

tā xiāngxìn [tàiyáng wéirào dìqiú zhuàn] *hé/bìngqiě/érqiě*
 he believe [sun surround earth rotate] and
 [quánqiú biànnuǎn shì jiǎ xīnwén]
 [global warming be fake news]
 'he believes that the sun rotates around the earth and global warming is fake news'

c) *Know: hé/bìngqiě/érqiě*

tā zhīdào [dìqiú wéirào tàiyáng zhuàn] *hé/bìngqiě/érqiě*
 he know [earth surround sun rotate] and
 [quánqiú biànnuǎn shì shìshí]
 [global warming be fact]
 'he knows that the earth rotates around the sun and global warming is a fact'

➤ Evidence II: Cross-linguistic evidence

- [DP D-∅ [CP ...
- In Ndebele, embedded clauses must be conjoined by *la*, the DP conjunctive; other types of evidence: controlling object agreement on the embedding verb, nominal morphology on Comp, oblique morphology, as objects of prepositions, no interaction with syntactic positions, obligatoriness of a linker *a-* with noun-complement clauses (Pietraszko, 2019).
 - *u- ku- thi*
 15.AUG- 15- say (Pietraszko, 2019)
- In Modern Greek and Polish, subordinate clauses (complementizers, *wh*-words) can be introduced by a determiner and the determiner and the clause have been argued to form a constituent because they can be fronted together or be used in isolation to answer questions (Borsley & Kornfilt, 2000; Roussou, 1991).
 - *To an tha fighi dhen to gnorizo.*
 the-nom whether fut leave-3sg not it-acc know-1sg
 'Whether he will leave, I don't know.' (Roussou, 1991)
 - *Jan oznajmit [to, że Maria zmienia pracę].*
 Jan announced that COMP Maria is-changing job
 'Jan announced that Mary is changing her job.' (Borsley & Kornfilt, 2000)

❖ Both NCCs and RCs can be conjoined by *hé*, but RCs can also be conjoined by *érqiě/bìngqiě*.

20) NCC:

[wèishénme wǒ-men xūyào duànliàn] hé/bìngqiě/érqiě [zěnyàng
 [why I-PI need exercise] and [how
 duànliàn cái yǒuxiào] de wèntí
 exercise only effective] de question
 ‘the question of why we need to exercise and how to exercise effectively’

21) RC:

- a) zhè-lèi [háo wú gēnjù] (de) érqǐe [tā-men
 this-type [Minimizer Neg(-have) foundation] (de) and [he-PI
 zài búduàn tíchū] de shēngmíng
 Asp constantly raise] de statement
 ‘this type of statements that are not based on any foundation and they are
 constantly raising’ (BCC corpus)
- b) tā xiǎng zhǎo yí-gè [xǐhuān tā] (de) bìngqiě [tā zìjǐ yě
 he want find one-CI [like he] (de) and [he self also
 xǐhuān] de rén
 like] de person
 ‘he wants to find someone that likes him and that he also likes’

❖ Hypothesis: NCCs are DPs while RCs are not (with or without *de*).

➤ Evidence I: Appositive DPs

- When an RC immediately precedes the demonstrative, *de* can be omitted (Cheng & Sybesma, 2009). It is the same case with NCCs.

22) NCC:

[rúhé rènshì zìjǐ] zhè-gè wèntí
 [how know self] this-CI question
 ‘the question of how to know oneself’ (BCC corpus)

23) RC:

[nǐ tuījiàn gěi wǒ] zhè-běn shū
 [you recommend to I] this-CI book
 ‘this book you recommended to me’

- What distinguishes NCCs from RCs is they allow the insertion of an inanimate pronoun.
- In the Mandarin DP, a pronoun may follow the proper name that identifies the individual(s) denoted by the whole DP.

24) Proper name – Pronoun – Demonstrative – (Numeral) – Classifier – Noun

[Dà-hóng-dēnglóng Gāo-gāo Guà] (tā) zhè-bù diànyǐng
 [Raise the Red Lantern] (it) this-CI film
 ‘this film, *Raise the Red Lantern*’

- This is possible for NCCs but not for RCs:

25) NCC:

[rúhé rènshì zìjǐ] tā zhè-gè wèntí
 [how know self] it this-CI question
 ‘the question of how to know oneself’

26) RC:

*[nǐ tuījiàn gěi wǒ] tā zhè-běn shū
 *[you recommend to I] it this-Cl book
 ‘this book you recommended to me’

➤ Evidence II: Occurrences without the head noun

- A content clause can appear post-copular without the aid of *de*; actually, insertion of *de* leads to ungrammaticality in this case.

27) Content clause:

[zhè-gè xiāoxi] jiù shì [dì-jiǔ-jiè yìshù-jié] jiāng zài
 [this-Cl news] just be [Ord-nine-Cl art-festival] will at
 Guǎngdōng jǔxíng (*de)
 Guangdong hold (*de)

‘the news is exactly that the ninth art festival will be held in Guangdong’

- Is 27) specificational/equative or predicational (Higgins, 1973; Moulton, 2009; Potts, 2002)? The sentences below in 28) are judged to be equally well-formed/natural.

28) VP ellipsis/pronominalization:

a) [dài màozi de nà-gè rén] búshì Mīmi, [pángbiān
 [wear hat de that-Cl person] Neg-be Mimi, [beside
 nà-gè dài yǎnjìng de] dào yǒukěnéng shì (tā).
 that-Clwear glasses de] on the contrary possibly be (she).
 ‘the person wearing a hat is not Mimi, but the one beside wearing glasses
 might be (her)’ [equative]

b) [xià zhōu yào lái lái jiǎng seminar de] búshì Mīmi,
 [next week will come talk seminar de] Neg-be Mimi,
 búguò [xià xià zhōu lái zuò workshop de] yǒu-kěnéng
 but [next next week come do workshop de] possibly
 shì (tā).
 be (she).

‘the one who will be here to give the seminar talk next week is not Mimi,
 but the one who will come to do a workshop the week after might be (her).’
 [specificational]

c) Mīmi bú-shì [yí-gè ānjìng de rén], Lìlì què shì
 Mimi Neg-be [one-Cl quiet de person], Lili yet be
 (nàyàng).
 (like that).

‘Mimi is not a quiet person, but Lili is (like that).’ [predicational]

d) [Lìlì zhǔnbèi xuānbù de xiāoxi] bú-shì [Mīmi yào cízhī],
 [Lili prepare announce de news] Neg-be [Mimi will resign],
 [Lìlì zhǔnbèi chéngqīng de yáoyán] dào
 [Lili prepare clarify de rumor] on the contrary
 yǒu-kěnéng shì (zhè-gè).

possibly be (this-CI).

‘The news Lili is going to announce is not that Mimi will resign, but rather the rumor she is going to clarify might be (this).’

29) Inversion:

- a) ??[*Mīmi yào cízhī*] *jiù shì* [*wǒ yào gàosù nǐ de xiāoxi*]
 ??[Mimi will resign] just be [I will tell you de news]
 ‘That Mimi will resign is exactly the news I want to tell you about.’
- b) [*Bāyī Nǚ-pái* *bù cānjiā běn-sàiji*]
 [Bayi Women’s Volleyball Neg participate present-season
Pái-chāo-lián-sài] *juéduì shì* [*zuìhuài de*] *xiāoxi*
 Volleyball-super-league] definitely be [worst de] news
 ‘That the Bayi Women’s Volleyball is not participating in this season’s Volleyball Super League is definitely the worst news.’ (Google)
- c) *yí-gè ānjìng de rén,* *Lili shì zhèyàng/*zhèyàng shì Lili*
 one-CI quiet de person, Lili be like-this/*like-this be Lili
 ‘A quiet person, Lili is this/*this is Lili.’
- d) [*Mīmi yào cízhī*], *zhè jiù shì nà-gè xiāoxi.*
 [Mimi will resign], this just be that-CI news.
 ‘Mimi will resign – this is exactly that news.’

30) Small clause:

- a) *nǐ dāng wǒ shǎzi?*
 you treat...as I idiot?
 ‘Don’t you treat me as an idiot!’
- b) ??*tā dāng [Mīmi yào cízhī] [yí-gè tiāndà de xīnwén]*
 ??she treat...as [Mimi will resign][one-CI whopping de news]
 ‘She treated “Mimi will resign” as a whopping news.’
- The RC has to be followed by *de*.
 - Nominalization vs. ellipsis (C.-T. J. Huang, 2016).
 - Tense harmony (Sharvit, 2003) in a language without tense (Lin, 2006)?
 - ◆ What he was was a nuisance to himself/him.
 - ◆ What he is was a nuisance to himself*/him.

31) RC:

- a) Specificational:
 [*Mīmi (dāngshí) xǐhuān de*] (*dāngshí**) *shì* [*wán yīnyuè de*]
 [Mimi (back then) like de] (back then*) be [play music de]
 ‘[what Mimi liked (back then)] was those who play music’
 *[what Mimi likes] (back then) was those who play music’
- b) Predicational:
 [*Mīmi (dāngshí) xǐhuān de*] (*dāngshí*) *shì* [*wán yīnyuè de*]
 [Mimi (back then) like de] (back then) be [play music de]
 ‘[who Mimi liked (back then)] played/plays music’
 ‘[who Mimi liked/likes] was playing music (back then)’

- c) [tā dāngshí de xiǎngfǎ] shì [shuí gěi de qián duō jiù
[he back then de thought] be [who give de money more then
mài gěi shuí]
sell to who]
'[his thought back then] was [he would sell it to the one offering the highest price] (but then he changed his mind ...)' (BCC corpus, modified)
- d) [tā de juédìng] dāngshí shì wánquán zhèngquè de
[he de decision] back then be absolutely correct de
'[his decision] back then was absolutely correct (but now time has changed ...)' (BCC corpus, modified)
- e) Ellipsis:
[Mīmi xǐhuān de rén] bǐ [tā bù xǐhuān de]
[Mimi like de people] than [she Neg like de]
duō hěnduō
more much
'people who Mimi likes are much more than who she dislikes'

Summary

- ❖ The NCC and the RC in Mandarin be further contrasted in two aspects:
 - The role of *de* (in coordination)
 - The syntactic status (whether it is a DP or not)

Appendix

- ❖ Why not a unified analysis:
 - A unified DP analysis for embedded clauses (Pietraszko, 2019): Ndebele complement clauses and relatives
 - Arguments for not treating RCs as DP (above)
 - In Mandarin, the coordination site is compulsorily below *de* for NCCs only; for possessives and RCs, the coordination site could be either above or below *de*.
- 32) Possessive:
- a) [tā de] hé [línjū de] gǒu dōu pīnmìng-de jiào
[he de] and [neighbor de] dog DOU desperately cry
'his and his neighbors' dogs were all barking desperately' (BCC corpus)
[co-ownership impossible]
- b) [Mīmi] hé [Luójié] de jítā
[Mimi] and [Roger] de guitar
'Mimi's and Roger's guitars'/'Mimi and Roger's guitar' [co-ownership possible]
- A unified modifier analysis for Thai NCCs and RCs (Jenks, 2014)
 - *Thīi* as a relative complementizer

- *dèk khon [thīi kèn] lé? [thīi ruay]*
 child CLF [thīi talented] and [thīi rich]
 ‘the rich and talented child(ren)’
dèk khon [thīi kèn] lé? (dèk) [khon thīi ruay]
 child CLF [thīi talented] and (child) [CLF thīi rich]
 ‘the rich child(ren) and talented child(ren)’
 (Jenks, 2014: 61)

- Differently, in Mandarin, both the intersective reading and the sum reading are available for adjective/RC conjunction by *hé*, be the conjunction below or above *de*.

33) Sum reading with conjunction below *de*:

[*sòng lizhī*] *hé* [*chī lizhī*] *de rén dōu zǒu-le*
 [send lichee] and [eat lichee] *de* people DOU leave-Asp
 ‘those who gave us lichees and those who ate the lichees all passed away’
 (BCC corpus)

34) Sum reading with conjunction above *de*:

[*cōngmíng de*] *hé* [*bèn de*] *fùmǔ*
 [smart *de*] and [stupid *de*] parents
 ‘smart parents and stupid parents (: where do they differ?) (Google)

- A more distinguished difference, as already mentioned in the paper, is the relative word order between NCCs and RCs in these two languages:
 - Thai: N – RC – NCC
 - Mandarin: RC – NCC – N

❖ CP coordination versus TP coordination (Bassi & Bondarenko, 2020)

- *Héibìngqiě*/érqiě** for embedded interrogatives: categorial selection or uniqueness of content?
- $CP_1 \text{ AND}_{\text{Boolean}} CP_2 = \lambda x. \text{CONT}(x) = p_1 \wedge \text{CONT}(x) = p_2$. // Contradiction! (Bassi & Bondarenko, 2020)
- Another conjunctive *jiā* ‘plus’ (or *jiā-shàng*)

35) Arguments:

- a) [*zhǔ-yǎn*] *jiā* [*dǎoyǎn*] *gòngtóng pǔxiě làngmàn tóngguà*
 [main actor] plus [director] together compose romantic fairy tale
 ‘the main actors and the director together compose the romantic fairy tale’
 (Google, modified) [sum]
- b) [*zhǔ-yǎn*] *jiā* [*dǎoyǎn*] *dōu kū-le*
 [main-actor] plus [director] DOU cry-Asp
 ‘the main actors and the director all cried’ (Google, modified) [intersective]

36) Predicates:

tā-liǎ zhōngyú chéngwéi [yǎnyuán] jiā [dǎoyǎn]
 3rd-two finally become [actor] plus [director]
 ‘the two finally became actors and directors’ [intersective]

Not: ‘the two finally became an actor and a director respectively’

37) zhīdào [wèn shénme] jiā-shàng [rúhé wèn]
 know [ask what] plus [how ask]
 'know what to ask and how to ask it' (Google) [sum]

Bibliography

- Aboh, E. O. (2005). Deriving relative and factive constructions in Kwa. In L. Brugè, G. Giusti, N. Munaro, W. Schweikert, & G. Turano (Eds.), *Contributions to the Thirtieth Incontro di Grammatica Generativa* (pp. 265–285). Venezia: Libreria Editrice Cafoscarina.
- Aoun, J., & Li, Y.-H. A. (2003). *Essays on the Representational and Derivational Nature of Grammar: The Diversity of Wh-Constructions*. Cambridge, Mass.: The MIT Press.
- Arsenijević, B. (2009). Clausal complementation as relativization. *Lingua*, 119(1), 39–50.
- Bassi, I., & Bondarenko, T. (2020). *Composing CPs: clausal embedding. The 30th Semantics and Linguistic Theory (SALT)*.
- Borsley, R. D., & Kornfilt, J. (2000). Mixed extended projections. In R. D. Borsley (Ed.), *Syntax and Semantics 32: The nature and function of syntactic categories* (pp. 101–131). Academic Press.
- Cheng, L. L.-S. (1986). De in Mandarin. *Canadian Journal of Linguistics*, 31, 313–326.
- Cheng, L. L.-S., & Sybesma, R. (2009). De as an underspecified classifier: first explorations. In *Yuyanxue Luncong 39* (pp. 123–156). Beijing: The Commercial Press.
- Dikken, M. den, & Singhapreecha, P. (2004). Complex Noun Phrases and Linkers. *Syntax*, 7(1), 1–54.
- Elliott, P. D. (2017). *Elements of clausal embedding*. UCL.
- Gazdar, G. (1980). A cross-categorial semantics for coordination. *Linguistics and Philosophy*, 3(3), 407–409.
- Ghomeshi, J. (1997). Non-projecting nouns and the Ezafe construction in Persian. *Natural Language and Linguistic Theory*, 15(4), 729–788.
- Grimshaw, J. (1990). *Argument Structure*. Cambridge, Mass.: The MIT Press.
- Higgins, R. (1973). *The pseudocleft construction in English*. MIT.
- Huang, C.-T. J. (1982). *Logical relations in Chinese and the theory of grammar*. MIT.
- Huang, C.-T. J. (2016). The syntax and semantics of prenominals: construction or composition? *Language and Linguistics*, 17(4), 431–475.
- Huang, C.-T. J., Li, Y.-H. A., & Li, Y. (2009). *The Syntax of Chinese*. Cambridge: Cambridge University Press.

- Huang, S.-Z. (2006). Property theory, adjectives, and modification in Chinese. *Journal of East Asian Linguistics*, 15(4), 343–369.
- Jenks, P. (2014). Generalized clausal modifiers in Thai noun phrases. *Syntax*, 17(4), 299–342.
- Kayne, R. S. (1994). *The Antisymmetry of Syntax*. Cambridge, Mass.: The MIT Press.
- Kitagawa, C., & Ross, C. N. G. (1982). Prenominal modifiers in Chinese and Japanese. *Linguistic Analysis*, 9(1), 19–53.
- Kratzer, A. (2006). *Decomposing attitude verbs*.
- Krifka, M. (1990). Boolean and non-Boolean “and.” In L. Kálmán & L. Pólos (Eds.), *Papers from the Second Symposium on Logic and Language*. Budapest: Akadémiai Kiadó.
- Li, C. N., & Thompson, S. A. (1981). *Mandarin Chinese: A functional reference grammar*. Berkeley: University of California Press.
- Li, Y. A. (2012). de in Mandarin 的 e in Taiwanese. *Studies in Chinese Linguistics*, 33(1), 17–40.
- Lin, J.-W. (1992). The syntax of zenmeyang ‘how’ and weishenme ‘why’ in Mandarin Chinese. *Journal of East Asian Linguistics*, 1(3), 293–331.
- Lin, J.-W. (2006). Time in a language without tense: the case of Chinese. *Journal of Semantics*, 23(1), 1–53.
- Link, G. (1983). The logical analysis of plurals and mass terms: a lattice-theoretical approach. In R. Bäuerle, C. Schwarze, & A. von Stechow (Eds.), *Meaning, Use and Interpretation of Language* (pp. 303–323). Berlin/New York: Walter de Gruyter.
- Lv, S. (1980). *Xiandai Hanyu Babai Ci 现代汉语八百词*. Beijing: The Commercial Press.
- Matsumoto, Y. (1988). Semantics and pragmatics of noun-modifying constructions in Japanese. In *Proceedings of the Fourteenth Annual Meeting of the Berkeley Linguistics Society* (pp. 166–175).
- Matsumoto, Y., Comrie, B., & Sells, P. (Eds.). (2017). *Noun-Modifying Clause Constructions in Languages of Eurasia: Rethinking Theoretical and Geographical Boundaries*. Amsterdam/Philadelphia: John Benjamins Publishing Company.
- McCawley, J. D. (1994). Remarks on the syntax of Mandarin yes-no questions. *Journal of East Asian Linguistics*, 3(2), 179–194.
- Mikkelsen, L. (2005). *Copular Clauses: Specification, predication and equation*. Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Moulton, K. (2009). *Natural selection and the syntax of clausal complementation*. University of Massachusetts Amherst.

- Pan, H., & Lu, S. (2013). The problems of the DeP analysis and its possible solution. *Studies in Language and Linguistics*, 33(4), 53–60.
- Pietraszko, A. (2019). Obligatory CP nominalization in Ndebele. *Syntax*, 22(1), 66–111.
- Potts, C. (2002). The lexical semantics of parenthetical-as and appositive-which. *Syntax*, 5(1), 55–88.
- Roussou, A. (1991). *Nominalized clauses in the syntax of Modern Greek*.
- Rubin, E. J. (2003). Determining pair-merge. *Linguistic Inquiry*, 34(4), 660–668.
- Sharvit, Y. (2003). Tense and identity in copular constructions. *Natural Language Semantics*, 11(4), 363–393.
- Stowell, T. A. (1981). *Origins of phrase structure*. MIT.
- Tang, S.-W. (2011). A parametric approach to NP ellipsis in Mandarin and Cantonese. *Journal of East Asian Linguistics*, 20(2), 107–115.
- Tsai, W.-T. D. (1994). On nominal islands and LF extraction in Chinese. *Natural Language and Linguistic Theory*, 12(1), 121–175.
- Zhang, N. N. (2009). *Coordination in Syntax*. Cambridge: Cambridge University Press.
- Zhang, N. N. (2012). De and the functional expansion of classifiers. *Language and Linguistics*, 13(3), 569–582.