

New perspectives on Chinese syntax

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9. Conclusion and outlook

List of abbreviations used in the glosses

CL	classifier
DUR	durative aspect
EXP	experiential aspect
NEG	negation
PERF	perfective aspect
PL	plural (e.g. 3PL = 3rd person plural)
SFP	sentence-final particle
SG	singular (e.g. 3SG = 3rd person singular)
SUB	subordinator (<i>de</i>)

1. Introduction: What linguists have always wanted to know about Chinese....

In the last thirty years, Chinese has been playing an increasingly important role in general linguistics, and has become a “must” for everyone interested in crosslinguistic comparison and syntactic theorizing. However, it is not always easy for a non-sinologist researcher to obtain comprehensive answers to her/his questions raised by statements encountered in the literature, which often present Chinese as a somewhat “exotic” language radically different from the Indo-European languages most linguists are familiar with.

For example, does Mandarin Chinese as an isolating language have the full array of parts of speech known from other languages or rather an impoverished inventory? Does Chinese as a so-called topic-prominent language indeed pay less attention to subject? Besides TopicP, what are the other functional projections in the periphery of the core sentence and to what extent can they be accommodated by the split CP approach (initiated by Rizzi 1997 and successfully applied to a number of different languages)? If sentence-final particles such as *le*, *ma*, *ou* are realizations of (different types of) complementisers in such a split CP, what are the consequences for recent approaches claiming an “outlier” status for particles (cf. a.o. Biberauer, Newton and Sheehan 2009)? What about Chinese as one of the standard examples of major word order change from OV to VO and back to OV?

This book aims at providing detailed answers to these and other questions. It places the issue at hand within the larger general linguistic context of current theories, points out the (implausible) ramifications of the often preconceived ideas prevalent in the literature and offers a precise syntactic analysis. A large array of representative data is provided in order to enable the reader to judge for her/himself the competing viewpoints often based on limited data sets. Although focussing on Modern Mandarin, the book will occasionally refer to earlier stages of Chinese when useful as an additional argument lending further support and plausibility to a given synchronic analysis, but also in order to highlight certain striking continuities in the history of Chinese syntax.

VO order is such a constant factor. Since the earliest attested documents from the pre-Archaic Chinese period, i.e. 13th -11th c. BC, up to today, Chinese has always been VO (cf. Djamouri 1988; 2001; Shen Pei 1992). This directly challenges Li & Thompson’s (1974a: 208) scenario – still widely accepted in the specialist and non-specialist literature – that pre-Archaic Chinese (prior to 11th c. BC) was an SOV language, which changed to SVO between the 10th and the 3rd c. BC before starting to shift back to SOV, a change purported to be still incomplete in Modern Mandarin.

Concerning the hypothesis of a possibly impoverished array of lexical categories as a characteristic of isolating languages, Chinese is shown to have as rich an inventory as inflected languages, thus lending support to Baker (2003) who likewise challenges the “prejudice” often encountered in the literature that isolating languages lack some of the categories postulated for other languages. This is important insofar as this preconceived idea is still alive, both in the functional and formal literature. For example, to assign a “hybrid”, “dual categorial” status to prepositions is more easily done in isolating languages where the co-existing verb and preposition are formally alike. As to be argued for at great length, however, this non-distinctness only exists at first sight and does not bear further scrutiny in the form of standard tests such as compatibility with negation and aspect, the ban on stranding observed for prepositions etc.

As for the place of Chinese in typology, the in-depth analysis of several major phenomena leads to the inevitable conclusion that Chinese is indeed as “mixed” and “disharmonic” as it appears to be: VO order, head-final NP, head-final CP, mixed adpositions (pre- and postpositions). Given that numerous other languages display mixed categories (e.g. pre- and postpositions in Germanic languages) and disharmonic orders (e.g. VO order and mixed adpositions in the Niger-Congo language Mande, cf. Claudi 1994: 195), the status of cross-categorial generalizations underlying the concept of harmony must be reconsidered, thus lending further support to Newmeyer (2005) and Whitman (2008). Both scholars defend the view that cross-categorial generalizations such as the correlation between VO order and prepositions (formally captured by the head parameter in the generative framework) do in fact not constitute grammatical constraints. For a child has no access to knowledge based on crosslinguistic comparison such as: the large majority of VO languages has prepositions and a head-initial CP. In other words, such a statement cannot be acquired by a child learner, hence is not part of the synchronic grammar a child has to learn. On the contrary, as argued for by Whitman (2008), cross-categorial harmonies reflect frequent patterns of language change and are of a statistical nature, i.e.

they do not constitute grammatical constraints. A mixed category of adpositions in languages such as Chinese arises because prepositions have been reanalysed from verbs and postpositions from nouns, where in each case the relative order between head and complement has been maintained. Under this view, exceptions to “harmonic” situations, illustrated e.g. by the presence of VO order and head-final CP in Chinese or OV order and prepositions in Persian are precisely what we expect; they arise when the historical origin of an item is different from that observed in the languages having served as input to the cross-categorial generalization.

Last, but not least, the stability over time displayed by so-called disharmonic states in Chinese (VO and head-final NP since the earliest attested documents dating from 13th c. B.C., 2000 years for VO and mixed adpositions as well as the head-final CP) clearly challenges the causal relation between disharmony and unstable state often posited in the literature, where languages are assumed to change in order to do away with their disharmonic states and to become more harmonic.

References

- Baker, Mark (2003). *Lexical categories, verbs, nouns, and adjectives*. Cambridge: Cambridge University Press
- Biberauer, Theresa, Glenda Newton, and Michelle Sheehan (2009). Limiting synchronic and diachronic variation and change: The Final-over-Final Constraint. *Language and Linguistics* 10 (4): 701–743.
- Claudi, Ulrike (1994). Word order change as category change. In *Perspectives on grammaticalization*, W. Pagliuca (ed.), 191–231. Amsterdam: Benjamins.
- Djamouri, R. (1988). *Etude des formes syntaxiques dans les écrits oraculaires gravés sur os et écaille de tortue (Chine 14^e-11^e av. J.-C.)*. Ph.D. diss., Ecole des Hautes Etudes en Sciences Sociales, Paris.
- Li, Charles N. and Sandra A. Thompson (1974a). An explanation of word order change SVO > SOV. *Foundations of Language* 12: 201 - 214.
- Newmeyer, Frederick J. (2005). *Possible and probable languages. A generative perspective on linguistic typology*. Oxford: Oxford University Press.
- Rizzi, Luigi (1997). The fine structure of the left periphery. In *Elements of Grammar*, Liliane Haegeman (ed.), 281–337. Dordrecht: Kluwer.
- Shen, Pei (1992). *Yinxu jiagu buci yuxu yanjiu*. Taipei : Wenjin.
- Whitman, John (2008). The classification of constituent order generalizations and diachronic explanation. In *Linguistic universals and language change*; Jeff Good (ed.), 233-252. Oxford: Oxford University Press.

2. SVO forever!

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2. SVO forever!*

When Chinese word order is cited in the general linguistics literature, it is either as an illustration of drastic changes in word order or as an exception to otherwise widely observed cross-categorical generalizations such as the combination of VO word order with a head-final NP. While the role of Chinese in typology is examined in detail in chapter 8, the present chapter addresses the issue of word order and recapitulates as well as corrects some of the major current misconceptions. Chinese is shown to have always displayed VO order, throughout its attested history of more than three thousand years up to the present day, thus invalidating the still widespread view of Chinese - due to Li and Thompson (1974a) - as the prototype of a language having undergone major word order changes. I first present relevant data from the earliest attested documents, i.e. the Shang inscriptions (pre-Archaic Chinese, 13th c.-11th c. BC) and then turn to today's Modern Mandarin.¹

2.1. Word order in Pre-Archaic Chinese (13th c. – 11th c. BC)

According to Li and Thompson (1974a: 208), the history of Chinese has evolved in three steps: Pre-Archaic Chinese started out as an SOV language, it changed to SVO between the 10th and the 3rd c. BC, and then started to shift back to SOV, a change purported to be still incomplete in Modern Mandarin. Importantly, Li and Thompson did not take into account at all the available rich text corpus for pre-Archaic Chinese. Nevertheless, their unfounded speculation became a “robust fact” by simply being repeated over and over in the literature, without anybody ever attempting to check their claim and to actually examine the relevant data.² This is the more surprising as Chinese specialists of pre-Archaic Chinese (cf. Chen Mengjia 1956: 133; Guan Xiechu 1953 a.o.) had already noted VO order for pre-Archaic Chinese. VO word order is also confirmed by the in-depth study of the syntax of pre-Archaic Chinese in Djamouri (1988) who in addition provides statistical evidence: among the 26,000 complete sentences in the Shang corpus 94% have SVO order, and only 6% SOV (also cf. Shen Pei 1992: 224 a.o.; for SOV order cf. section 2.1.2). Let us now have a closer look at the results of Djamouri (1988) and his subsequent research.

2.1.1. VO order

First, in pre-Archaic Chinese argument(s) subcategorized for by the verb occupy the postverbal position. This holds both for argument NPs (cf. [1] and [2]) and argument PPs (cf. [3], [6], [7]). Accordingly, both the direct and the indirect object follow the verb in the double object construction, where the indirect object (the goal argument) can either be an NP (cf. [4], [5a]) or a PP (cf. [5b]).

- (1) 王伐𡵓方
Wáng fá [_{NP} *gōng fāng*]. (Heji 6223)
 king fight Gong tribe
 ‘The king will fight the Gong tribe.’

* This chapter is based on joint work and extensive discussions with Redouane Djamouri and John Whitman.

¹ The corpus of these earliest documents dating from the Shang dynasty consists of approximately 150,000 fragments carved on ox bones and tortoise shells among which more than 26 000 complete sentences can be identified. The Shang inscriptions are also often referred to as *oracle bone inscriptions* (OBI). Following Djamouri (1988), the term *Shang inscriptions* is used here in order to avoid any misunderstanding with respect to the nature of this corpus. As will become evident from the examples provided in this section, the Shang inscriptions consist of full-fledged sentences and do not represent some obscure formulaic language. Finally, note that Chinese is a language whose syntax is recoverable at an earlier stage than its phonology, the earliest documents (the *Shi Jing* ‘Book of Odes’) used to reconstruct the phonology of so-called *Old Chinese* (cf. Baxter 1992, Sagart 1999: 4; Baxter and Sagart to appear) dating from several centuries later, roughly 8th c. - 6th c. BC.

² Light (1979) is a notable exception. He emphasizes the mixed nature of Chinese both in present and earlier stages (though not going further back than the 5th c. BC himself) where VO order co-exists with a systematically head-final NP, typically associated with OV order, and calls for a more cautious approach to the interpretation of these data.

- (2) [...]王𪔐 麋
wángjǐng mí (Heji 10361)
 king trap elk
 ‘The king will trap elks.’
- (3) 王往于田 (Heji 00635 recto)
Wáng wǎng [_{PP} *yú tián*]
 king go to field
 ‘The king will go to the fields.’
- (4) 帝受我年
Dì shòu [_{IO} *wǒ*] [_{DO} *nián*]. (Heji 09731 recto)
 Di give 1PL harvest
 ‘[The ancestor] Di will give us a harvest.’
- (5) a. 𠬞 祖乙三宰 (Heji 01610)
Yòu zǔyǐ sān láo
 present Zuyi 3 penned.sheep
 ‘One will present (as sacrifice) three penned sheep to Zuyi.’
- b. 𠬞 于祖乙一牛 (Heji 06945)
Yòu [_{PP} *yú zǔyǐ*] [_{NP} *yī niú*]
 present to Zuyi 1 ox
 ‘One will present (as sacrifice) an ox to Zuyi.’
- (6) 子商亡斷在囧 (Heji 02940)
Zǐ shāng wáng duàn [_{PP} *zài huò*]
 prince Shang NEG end in misfortune
 ‘The prince Shang will not end in misfortune.’
- (7) 我乎往于西 (Heji 10050)
Wǒ hū [*wǎng* [_{PP} *yú xī*]]
 1PL order go to west
 ‘We will order to go west.’

Example (7) is a nice illustration of the pervasive head-complement order in the VP to be expected in an VO language: the matrix verb *hū* ‘to order’ takes its clausal complement to its right, and the argument PP of the verb in this clause again is in postverbal position.

Second, equative constructions involving a copula have the form ‘A copula B’, another characteristic of VO languages:

- (8) 娩唯女
Miǎn wéi nǚ (Heji 6948 recto)
 childbirth be girl
 ‘The childbirth is a girl.’ (Djamouri 2001: 151, [14])

Third, negation and auxiliaries precede the verb, i.e. these heads take their verbal complement to the right, again in accordance with the head-complement order of a VO language. This holds for all types of verbs, including the copula *wéi* ‘be’ (cf. [9], [10]):

- (9) 雨不唯囧
Yǔ bù wéi huò (Heji 12891)
 rain NEG be misfortune
 ‘[This] rain is not harmful.’

- (10) 生十月雨其佳霈 (Heji 12628)
Shēng shí-yuè yǔ qí wéi líng
 beginning 10-month precipitation FUT be hail
 ‘At the beginning of the tenth month, the precipitation will be hail.’
- (11) 黃尹弗害王 (Heji 6946 recto)
Huángyǐn fū tuō wáng
 Huangyin NEG harm king
 ‘[The ancestor] Huangyin does not harm the king.’
- (12) 王其擁羌 (Heji 26955)
Wáng qí yòng qiāng
 king FUT use.in.sacrifice Qiang
 ‘The king will use in sacrifice [some] Qiang tribesmen.’

Fourth, non-phrasal adverbs such as *yǔn* ‘indeed’, *yì* ‘also’ occur in preverbal position to the right of the subject:

- (13) 五月癸巳雨乙巳亦雨 (Heji 20943)
[Wǔ-yuè guǐsì] yǔ yǐsì yì [vP yǔ]
 5 -month Guisi rain Yisi also rain
 ‘On the day Guisi of the fifth month, it rained; on the day Yisi, it also rained.’
- (14) 𠩺伐于黃尹亦𠩺于蔑 (Heji 00970)
Yòu fá yú Huángyǐn yì [vP yòu yú Miè]
 offer victim to Huangyin also offer to Mie
 ‘We will offer victims (as sacrifice) to Huanyin, and also to Mie.’
- (15) a. 壬辰允不雨風 (Heji 12921 verso)
Rénchén yǔn [NegP bù [vP yǔ]] fēng
 Renchen indeed NEG rain blow
 ‘On the Renchen day, indeed it did not rain, but the wind blew.’
- b. 方允其來于汴 (Heji 6728)
Fāng yǔn qí lái [PP yú zhǐ]
 Fang effectively FUT come to Zhi
 ‘Fang will effectively come to Zhi.’

As illustrated in (15a) and (15b), adverbs occur to the left of the extended verbal projection, hence precede negation and auxiliaries.

Fifth, phrasal adjuncts (PPs and NPs) in pre-Archaic Chinese can appear in three positions: preceding the subject, between the subject and the verb or postverbally (after the object when present). This again is the expected situation for a VO language, as witnessed by the ‘V O adjunct-XP’ order in an VO language such as English: *He met Mary last week/ on Tuesday*. Note in this context that the non-phrasal adverbs just discussed (*yì* ‘also’, *yǔn* ‘indeed’) are confined to the preverbal position below the subject and excluded from postverbal and pre-subject position.

Let us first examine adjunct PPs (cf. [16], [17]) and adjunct NPs (cf. [18], [19]) in postverbal position: S V (O) [adjunct PP/NP].

- (16) 多犬网鹿于𡇗 (Heji 10976 recto)
Hū duō quǎn [vP wǎng lù [PP yú nóng]]
 order numerous dog.officer net deer at Nong
 ‘Call upon the many dog-officers to net deer at Nong.’

- (17) 乞令吳以多馬亞省在南 (Heji 564 recto)
Qì lìng wú yǐ duō mǎyǎ [vP xǐng [PP zài nán]]
 Qi order Wu lead numerous military.officer inspect at south
 ‘Officer Qi will order Wu to lead the numerous military officers to carry out an inspection in the south.’

- (18) 王入今月 (Heji 20038)
Wáng [vP rù [NP jīn yuè]]
 king enter present month
 ‘The king will enter [the city] this month.’

- (19) 出于河來辛酉 (Tun 1119)
Yòu yú hé [NP lái xīnyǒu]
 present to He next Xinyou.day
 ‘[We will] present a sacrifice to the divinity He on the next Xinyou day.’

(16) and (17) involve adjunct PPs headed by *yú* ‘at, to’ and *zài* ‘at’, respectively. (17) is noteworthy insofar as it neatly illustrates pervasive head-complement order, where each embedding verb takes its clausal complement to its right. (18) - (19) illustrate temporal adjunct NPs in postverbal position.

For the preverbal position: S [adjunct PP/NP] V (O), multiple adjuncts are possible (cf. [20]), in contrast to the postverbal position just discussed, where only one adjunct is observed.

- (20) 王在十二月在襄卜 (Heji 24237)
Wáng [vP [PP zài shí’èr-yuè] [vP [PP zài xiāng] [vP bǔ]]]
 king at 12 -month at Xiang divine
 ‘The king in the twelfth month at the place Xiang made the divination.’

- (21) 王今丁巳出 (Heji 07942)
Wáng [NP jīn dīngsì] chū
 king actual Dingsi.day go.out
 ‘The king on this Dingsi day goes out.’

- (22) 王自余入 (Heji 3458)
Wáng [PP zì yú] rù
 king from Yu enter
 ‘The king will enter from Yu.’

Finally, phrasal adjuncts can also occupy the sentence-initial position to the left of the subject: [adjunct PP/NP] S V (O).

- (23) 于辛巳王圍召方 (Heji 33023)
[PP Yú xīnsì] wáng wéi shào fāng
 at Xinsi king surround Shao tribe
 ‘On the Xinsi day, the king will surround the Shao tribe.’

- (24) 今六月王入于商 (Heji 7775)
[NP Jīn liù-yuè] wáng rù yú shāng
 actual 6 -month king enter in Shang
 ‘This sixth month, the king will enter the Shang city.’

- (25) 在王其先邁捍 (Ying 593)
[PP Zài nǚ] wáng qí xiān gòu hàn
 at Nü king FUT advance meetopposition

‘At Nü, the king will advance and meet an armed opposition.’

Note in passing that the distribution of phrasal adjuncts illustrated above also highlights one of the shortcomings of cross-categorial correlations in typological surveys initiated by Greenberg (1963). Dryer (2003: 48-9) for example examines the position of PPs *per se* and establishes as expected “harmonic” correlations the combination of ‘PP V’ with OV order and of ‘V PP’ with VO order. As we have seen above, argument PPs indeed pattern with nominal objects, i.e. argument NPs, in following the verb; by contrast, adjunct PPs may either appear in pre- or postverbal position (where both positions are consistent with the head-initial nature of the VP in an VO language). Consequently, the argumental vs. non-argumental status of PPs needs to be taken into account. This is evident in (26): the argument PP *yú shāng* ‘in(to) Shang’ subcategorized for by the verb *rù* ‘enter’ must occupy the postverbal position and thus illustrates VO order, whereas the adjunct PP *yú qī yuè* ‘in the seventh month’ precedes the verb.

- (26) 王于七月入于商 (Heji 7780 recto)
Wáng [_{VP} [_{PP} *yú qī -yuè*] [_{VP} *rù*] [_{PP} *yú shāng*]]
 king in 7 -month enter in Shang
 ‘The king in the seventh month will enter the Shang city.’

A pure surface exam of the distribution of PPs must also fail here because there is no way to determine which PP is to be counted for establishing relevant word order correlations, the preverbal or the postverbal one.

To summarize this section, the rich corpus available for the earliest attested texts from pre-Archaic Chinese (13th c. - 11th c. BC) provides conclusive evidence for VO word order. Arguments subcategorized for by the verb (NPs, PPs and clausal complements) occur in postverbal position. Furthermore, negation and auxiliaries precede the verb, including the copula. Phrasal adjuncts can precede or follow the verb, with multiple adjuncts confined to the preverbal position. Accordingly, the extended verbal projection in pre-Archaic Chinese is head-initial. i.e. displays head-complement order throughout.

2.1.2. OV order

Let us now turn to the question of how to reconcile the claim just argued for at length that pre-Archaic Chinese was a SVO language with the existence of SOV structures alluded to above in the introductory text for this section. First, the small percentage (6 %) of sentences displaying SOV order indicates that SOV cannot be the default word order, the overwhelming majority of sentences instantiating SVO order. Second, and much more important than this statistical evidence, upon closer inspection the cases of surface SOV order turn out to involve head-complement configurations consistent with VO. Note in this context that the SOV structures to be examined here are not those referred to by Li and Thompson as evidence for their claim. Given that they completely ignored the corpus for pre-Archaic Chinese, their only example for SOV order involves a fronted *interrogative* object pronoun (*shéi* ‘who(m)’) and dates from a much later period, i.e. around 5th c. BC (cf. the detailed discussion of [31] below).³

³ The other sentence provided by Li and Thompson (1974a: 208; [28]) as alleged example of SOV order in a declarative sentence does not bear further scrutiny, for it turns out to be incomplete, hence misparsed and not involving OV order at all. (i) is the example as it is cited by Li & Thompson with their glosses and translation (*modulo* the Chinese characters added), (ii) is the complete sentence as retrieved from the original text:

- (i) 民獻有十夫予翼
Mín xiàn yǒu shí fū yǔ yì (= Li & Thompson’s [28], p. 208)
 people sage have ten persons I assist
 ‘Ten of the wisemen among the people assisted me.’
- (ii) 今翊日民獻有十夫 ; 予翼以于救寧武圖功 (尚書·27·5)
jīn yì rì mín xiàn yǒu shí fū , yǔ yì yǐ yú mǐ níng wǔ tú gōng
 actual next day people bestow have ten man 1SG sustain lead to soothe settle Wu planned work
 ‘The day after, [among] the people ten men have been sent; I will support them and lead them to soothe and settle the work planned by Wu.’

Returning to the (surface) SOV cases in pre-Archaic Chinese, they can be divided into two classes, i.e. focalization of the object, on the one hand, and object pronouns in the context of negation, on the other. Crucially, both turn out to involve head-complement configurations consistent with VO. For reasons of space, I will limit myself to focalization of the object. (For a detailed discussion of the structure ‘Neg pronoun V’, cf. Djamouri 2000, 2001 and references therein).

It is complete sets of predictions in the Shang inscriptions such as (27) and (28) that permit us to identify superficial OV structures as clear cases of focalization. (27) presents a prediction in the form of a simple assertion displaying VO order. Against this background, two alternatives, (28a) and (28b), are proposed. In these alternatives, ‘follow someone (in order to fight Xia Wei)’ presents the presupposition, and the object of the verb *bǐ* ‘follow’ the focus:

- (27) 王比望乘伐下危 (Heji 6476)
Wáng bǐ wàng chéng fá xià wēi
 king follow Wang Cheng fight Xia Wei
 ‘The king will follow Wang Cheng to fight Xia Wei.’
- (28) a. 王勿唯望乘比 (Heji 6476)
Wáng wù wéi [NP wáng chéng] bǐ
 king NEG be Wang Cheng follow
 ‘It must not be Wang Cheng that the king will follow.’
- b. 王𠄎望乘比 (Heji 6476)
Wáng huì [NP wáng chéng] bǐ
 king must:be Wang Cheng follow
 ‘It must be Wang Cheng that the king will follow.’

As argued for at length in Djamouri (1988, 2001), all of the attested examples where an argument NP or PP occupies a (surface) preverbal position involve focalization. Importantly, the relevant focus pattern in pre-Archaic Chinese is restricted to a type of cleft construction, akin to modern Mandarin *shì...de* clefts (cf. Paul & Whitman 2008). The cleft structure is clear in (28a) and (28b) where the focused constituent *Wáng Chéng* follows the negated matrix copula *wù wéi* ‘NEG be’ in (28a) and the modal copula *huì* ‘must be’ in (28b). On the cleft analysis, the focused constituent is postverbal, because to the right of the matrix copula: it occupies the specifier position of the projection selected as complement by the copula. Accordingly, this construction illustrates head-complement, not

As can be seen from the glosses and the translation, (ii) involves two coordinated sentences with *yú* ‘I’ as the subject of the second clause, the larger part of which is missing in Li and Thompson’s rendering.

The same fate befalls LaPolla (1994: 99) who like Li and Thompson (1974a) interprets the OV order exclusively observed in precise grammatical contexts such as question or negation as “remnants” of an “earlier” generalized verb-final order. His example (2) (p. 99) from the *Shūjīng* (around 8th c. BC) is incomplete as well and accordingly misparsed and does not illustrate the intended order ‘negation pronominal object verb’, either (cf. Djamouri/Paul/Whitman 2012). (iii) provides the example as cited by La Polla (1994: 99) allegedly illustrating the order ‘S Neg O_{pron} V’ order (his glosses and translation, *modulo* the Chinese characters added):

- (iii) 汝念哉，無我殄。 (Shu jīng 書經 康誥 circa 8th c. BCE)
Rǔ niàn zāi wú wǒ tiǎn.
 2SG remember PRT NEG 1SG destroy
 ‘Remember, don’t forget what I told you.’

However, going back to the original text, we see that the complete sentence is as in (iv), i.e. the object 享 *xiǎng* ‘dignity’ of the verb 殄 *tiǎn* ‘deprive’ is missing. As a consequence, the sentence does NOT illustrate preverbal position of an object pronoun: on the contrary, *wǒ* ‘I’ is the subject of the VP ‘deprive of dignity’:

- (ii) 汝念哉，無我殄 享。
Rǔ niàn zāi wú wǒ tiǎn xiǎng.
 2SG remember PART NEG 1SG deprive dignity
 ‘Do you think of this, and do not make me deprive you of your dignity.’
 (Translation by Legge p.397-398)

complement-head order. The same facts are exemplified in the discourses in (29) and (30), where the same matrix copula elements *huì* and *wù wéi* are attested.

- (29) a. 王_王 易_易 白_白 焮_焮 比_比 (Heji 6460 recto)
Wáng [_{VP} *huì* [_{NP} *yáng bó shǐ*]_i [_{VP} *bǐ t_i*]]]
 king must.be Yang lord Shi follow
 ‘It must be Shi, lord of Yang, that the king will follow.’
- b. 王_王 勿_勿 唯_唯 易_易 白_白 焮_焮 比_比 (Heji 6460 recto)
Wáng [_{NEGP} *wù* [_{VP} *wéi* [_{NP} *yáng bó shǐ*]_i [_{VP} *bǐ t_i*]]]
 king NEG be Yang lord Shi follow
 ‘It must not be Shi, lord of Yang, that the king will follow.’
- (30) a. 王_王 勿_勿 唯_唯 龍_龍 方_方 伐_伐 (Heji 6476)
Wáng [_{NEGP} *wù* [_{VP} *wéi* [_{NP} *lóng fāng*]_i [_{VP} *fā t_i*]]]
 king NEG be Long tribe fight
 ‘It must not be the Long tribe that the king will fight.’
- b. 王_王 勿_勿 唯_唯 龍_龍 方_方 伐_伐 (Heji 6476)
Wáng [_{VP} *huì* [_{NP} *lóng fāng*]_i [_{VP} *fā t_i*]]]
 king must.be Long tribe fight
 ‘It must be the Long tribe that the king will fight.’

To summarize, the preceding discussion has shown the importance of a precise syntactic analysis of the synchronic stage at hand. The surface ‘O V’ sequence in focalization structures turns out to involve head-complement order precisely in accordance with the main word order ‘VO’.

Concerning Li & Thompson’s (1974a: 208 [27]) single example for SOV order, it dates from nearly thousand years later and illustrates the well-known fronting of interrogative object pronouns in late Archaic Chinese (cf. Aldridge 2010 and references therein):

- (31) a. 吾_吾 誰_誰 欺_欺 (Analects 9, 5th c. - 3rd c. BC; Li and Thompson 1974a: 208 [27])
Wú shéi qī?
 1SG who deceive
 ‘Who do I deceive?’
- b. [_{TP} *Wú* [_{T°} [_{T°} Ø] [_{VP} [_{VP} *shéi qī* [_{VP} *t_{shei}*]]]]]
 1SG who deceive

As argued for in detail by Aldridge (2010), sentences such as (31a) involve sentence-internal *wh*-movement to a position below the subject in the edge of *vP*. In other words, a *wh*-question such as (31a) again instantiates head-complement order in accordance with VO, because *shéi* ‘who(m)’ occupies the specifier position in the complement (*vP*) of the higher head (Tense) (cf. [31b]).

The situation in late Archaic Chinese is thus different from that in English where *wh*-pronouns move to a position in the sentence-periphery above the subject, i.e. Spec,CP, as is evident from the translation of (31a): *Who do [I deceive]?* Importantly however, in both languages *wh*-movement cannot be taken as an indication of OV order.

2.1.3. Interim summary

The earliest attested documents from the pre-Archaic Chinese period, i.e. 13th c.-11th c. BC provide conclusive evidence for VO order (cf. Chen Mengjia 1956, Djamouri 1988; 2001, Shen Pei 1992). This straightforwardly invalidates Li & Thompson’s (1974a: 208) hypothesis that pre-Archaic Chinese (13th c. - 11th c. BC) was an SOV language, a hypothesis still accepted in the specialist (cf. a.o. LaPolla 1994, Feng Shengli 1996) and non-specialist literature (cf. a.o. Newmeyer 1998: 242,

Lehmann 1995: 1121) and perpetuated in introductory courses to linguistics as one of the prototypic examples of major word order change (OV to VO and then back to OV).

Note that Li and Thompson (1974a) do not take into account at all the available rich corpus for pre-Archaic Chinese. They base their speculative hypothesis on a single much later example (5th c. BC) illustrating the well-known fronting of an object *wh*-pronoun to a sentence-internal preverbal position: ‘Subject who(m) verb?’ Naturally, this surface OV order observed in questions cannot serve as an argument for OV as the general, default order, in the same way that fronting of *wh*-pronouns in English questions is not taken as an indication of OV order, either. Quite on the contrary, in both languages *wh*-movement is observed precisely against the backdrop of VO order. Last, but not least, under an analysis where the *wh*-pronoun in Chinese occupies the specifier position of a functional projection above *v*P whose head selects the verbal projection as its complement, we obtain a head-complement structure in accordance with VO. Furthermore, given that pre-Archaic Chinese displayed VO order, the alleged change to VO in the period between the 10th and the 3rd c. BC, postulated by Li and Thompson (1974a) as the second step in the history of Chinese never took place, either. Nor did Chinese start shifting “back” to SOV after the third century BC; a random investigation of data at different stages shows pervasive VO order (cf. Djamouri, Paul, and Whitman 2013a). Importantly, Li and Thompson’s (1974a) central assumption associated with this third step in the history of Chinese is likewise incorrect, namely the idea that this purported change to OV is still in progress in Modern Mandarin. This is demonstrated in the next section.

2.2. VO word order in Modern Mandarin

As observed by Li and Thompson (1974a: 206) themselves, Modern Mandarin displays quite a lot of VO characteristics, whence the claim of a “still ongoing” change: “The shift [to OV; WP] is obviously incomplete since Modern Mandarin still permits SVO word order in certain constructions. Such SVO sentences remain to be replaced by the SOV sentences that are already in existence or the SOV sentences that will be emerging.” Putting aside the conceptual problems with this panchronic and teleological view of language change (cf. Hale 1998, 2007), the alleged OV status of Modern Mandarin has already been addressed and invalidated by numerous studies (cf. *inter alia* Light 1979, Huang Shuanfan 1978, Mei Kuang 1980, Sun and Givon 1985, Mulder and Sybesma 1992, Whitman and Paul 2005).

In the following, I offer a brief survey of the relevant data demonstrating VO order in Modern Mandarin supplementing the arguments provided in the works just mentioned. I then carefully examine the cornerstone in Li and Thompson’s OV hypothesis for Modern Mandarin, *viz.* the *bǎ* construction. The *bǎ* construction turns out to involve head-complement order consistent with VO. As a result, Li and Thompson’s idea of Modern Mandarin as an OV language or a language “tending towards OV” is once again refuted, on the very basis of the construction put forward by them as their main piece of evidence for OV order.

2.2.1. The phrase structure of Modern Mandarin

Only arguments subcategorized for by the verb and “quasi” arguments depending on the verb’s aktionsart, i.e. quantifier phrases indicating duration or frequency (cf. [33] and [34]) are admitted in postverbal position (cf. C.-T. James Huang 1982, Paul 1988, C.-C. Jane Tang 1990). Accordingly, in the double object construction, both the indirect object and the direct object follow the verb (cf. [35] and [36]).

- (32) *Tā dǎsǎo fángzi*
3SG sweep room
‘She has cleaned the room.’

- (33) *Tā yě děng-le [QP bàn-ge xiǎoshí]*
3SG also wait-PERF half-CL hour
‘He also waited for half an hour.’

- (34) *Tā yǐjīng lái -le [QP wǔ-cì] le*
3SG already come-PERF 5 -time PART

‘He has already come five times.’

- (35) *Tā sòng -le* [_{NP} *háizi*] [_{NP} *hěn duō qián*]
 3SG give -PERF child very much money
 ‘He gave the child a lot of money (as a present).’

- (36) *Wǒ mài -le* [_{NP} *yī-liàng qìchē*] [_{PP} *gěi tā*]
 1SG sell-PERF 1-CL car to 3SG
 ‘I sold him a car.’

Unlike arguments, adverbs and phrasal adjuncts are totally excluded from the postverbal position in modern Mandarin (in contrast to pre-Archaic Chinese) and have to precede the verb. Recall, however, that from the earliest documents on, non-phrasal adjuncts, i.e. adverbs such as *yì* ‘also’ (cf. [13] above) were already confined to the preverbal position.

- (37) *Tā yě / měi -tiān / chángcháng lái* {**yě / *měi -tiān / *chángcháng*}
 3SG also/ every-day/ often come also/ every-day/ often
 ‘He also comes every day/often.’

- (38) {*Zài jiāli / báitiān*} *tā* {*zài jiāli / báitiān*} *xiūxi* {**zài jiāli / *báitiān*}
 at home/ daytime he at home/ daytime rest at home/ daytime
 ‘(At home/during daytime) he takes a rest (at home/during daytime).’

- (39) *Wǒ gěi tā dāng fānyì* (**gěi tā*)
 1SG for 3SG act interpreter for 3SG
 ‘I serve as an interpreter for him.’

The constraints at work in the verb phrase are captured by C.-T. James Huang’s (1982) formulation of the *X-bar structure of Chinese* (called *Phrase Structure Constraint* since Huang 1984a: 54):

- (40) a. [_{X_n} Xⁿ⁻¹ YP*] iff n= 1 and X ≠ N
 b. [_{X_n} YP* Xⁿ⁻¹] otherwise (C.-T. James Huang 1982: 41, [20]; section 2.3)

In other words, with the exception of the systematically head-final NP, the other projections examined by C.-T. James Huang (1982) are head-initial: the sentence projection IP (now TP) as well as the projections headed by the lexical categories verb, adjective and preposition. (Note that NP has been head-final throughout the history of Chinese, from the earliest documents on up to now. Cf. Djamouri 1988; Djamouri, Paul and Whitman 2013a).

Applied to the verb phrase, the *Phrase Structure Constraint* (PSC) entails that the verb can only be merged with, i.e. followed by its (quasi-) argument.⁴ Concerning the projections above the lexical verb phrase such as AuxP and AspP, they are also head-initial, thereby confirming the head-complement order in the extended verbal projection and strengthening the VO character of Modern Mandarin.

⁴ This is somewhat simplified insofar as a (secondary) predication on the matrix object occupies a vP-internal position (cf. Huang C.-T. James 1984: 568; Paul 1988, ch. 7):

(i) *Zhāngsān yǒu yī-běn shū* [_i *wǒ kàn -bù -dǒng e_i*] (= Huang’s 1984: 569, [94])
 Zhangsan have 1-CL book 1SG see -NEG-understand
 ‘Zhangsan has a book, which I don’t understand.’

Furthermore, the way the *Phrase Structure Condition* (PSC) was formulated did not allow for the arguments in a double object construction (cf. [35] and [36] above) to both follow the verb, and this case had to be ruled in by “marked features of the verbs, which require both constituents following them to be subcategorized elements” (Huang 1982: 96-97, note 16). Note in this context that an analysis of the DO construction in terms of an additional head-initial projection (*Applicative Phrase*) hosting the goal argument (cf. Paul and Whitman 2010) solves this problem (cf. the discussion of [80] below).

First, auxiliaries are followed by their complement:

- (41) *Tā kěyǐ qù, nǐ yě kěyǐ qù* (Lü Shuxiang et al. 1980:337)
 3SG can go 2SG also can go
 ‘He may go, you may go, too.’
- (42) *Tā huì shuō jǐ -ge yǔyán*
 3SG can speak several -CL language
 ‘He can speak several languages.’
- (43) *Xiànzài tā bù huì zài jiā* Lü Shuxiang et al. 1980 (278)
 now 3SG NEG will be home
 ‘He should not be home right now’.
- (44) *Tā yào xué yóuyǒng*
 3SG want learn swim
 ‘He wants to learn how to swim.’
- (45) *Kuài yào xià yǔ le*
 soon will fall rain SFP
 ‘It (looks like it) will rain soon.’

Both *huì* and *yào* can also express an epistemic probability ‘probably should’ or ‘probably will’, besides their deontic meaning ‘know how to’ and ‘want’, respectively. (For further discussion of auxiliaries in Chinese, cf. C.-T. Huang 1988, Audrey Li 1990: 149, , Tang Ting-chi 2000 a.o).

The head-initial character of AuxP holds independently of the analysis adopted, be it as a raising verb selecting a clausal complement (cf. Lin Jo-wang and C.-C. Jane Tang 1995 a.o) or as a kind of control verb with a smaller complement (cf. McCawley 1992, Ernst 1994 a.o.). Importantly, as argued for by Ernst (1994), the distribution of adverbs demonstrates that auxiliaries do not realize the head of the highest projection hosting the subject (Inflection or Tense, respectively), but are located in the complement of Infl/Tense. As a matter of fact, VP-level adverbs occur between the subject and the auxiliary, which would be excluded if the auxiliary were the head in the same projection as the subject, no element being allowed to intervene between a head and its specifier (also cf. [41] above):⁵

- (46) a. *Zhème wǎn. [TP Tā [T° Ø] [AuxP hái [AuxP néng lái]]] ma ?*
 so late 3SG still can come SFP
 ‘It’s already late. Can he still come?’ (Lü Shuxiang et al. 1980: 416)
- b. *Xiǎolán míngtiān cái huì dào Běijīng* (Ernst 1994: 201, (25b))
 Xiaolan tomorrow only.then will arrive Beijing
 ‘Xiaolan will arrive at Beijing only tomorrow.’

As indicated in (46a), while the specifier position of IP/TP is occupied by the subject, the head Infl/Tense itself remains covert in Chinese (cf. Ernst 1994: 208; also cf. Sybesma 2007). The position of AuxP as complement of Infl/Tense to the right of the overt subject in Spec, IP/TP, and hence to the right of the (covert) head confirms C.-T. James Huang’s (1982: 41) claim that IP/TP is a head-initial projection.

Second, aspectual suffixes on the verb can also be accommodated within a uniformly head-initial extended verbal projection, provided they are analysed as heads selecting a verbal complement. The verb raises to the left of the aspectual head, as illustrated for the perfective aspect suffix *-le* and the experiential aspect suffix *-guo* in (47) and (48):

⁵ This is not the reasoning applied by Ernst (1994: 202) who uses the undesirability of adverb adjunction to the non-maximal projection Infl-bar in order to exclude the configuration where the auxiliary realizes the head Infl and the subject occupies the position Spec, IP.

- (47) *Tā yǐjīng [AspP [Asp° mǎi-le] [VP t_{mai} sān-ge shǒujī]]*⁶
 3SG already buy-PERF 3 -CL mobile.phone
 ‘He already bought three mobile phones.’
- (48) *Qiánnián, wǒ [AspP [Asp° qù-guo] [VP t_{qu} chángchéng]]* (Lü Shuxiang et al. 1980: 247)
 last.year 1SG go-EXP great.wall
 ‘Last year I went to the Great Wall.’

The configuration ‘AspP over VP’ was already proposed by Ernst (1994: 197-198), *modulo* the absence of V-to-Asp° movement in his analysis, where the aspectual head licenses *in situ* the corresponding suffix on the verb. (Also cf. Lin Tzong-Hong 2001: 258-259)

Third, negation in turn precedes verbs (with or without aspect suffixes) and auxiliaries:

- (49) *Tā bù qù, wǒ yě bù qù*
 3SG NEG go 1SG also NEG go
 ‘If he doesn’t go, I don’t go, either.’
- (50) *Wǒ gēnběn bù [AuxP huì [tí zúqiú]]* (Lü Shuxiang et al. 1980: 278)
 1SG at.all NEG can kick football
 ‘I cannot play football at all.’
- (51) *Wǒ hái méi [AspP [Asp° qù-guo] [VP t_{qu} chángchéng]]*
 1SG still NEG go-EXP great.wall
 ‘I haven’t been to the Great Wall yet.’

There is no consensus about the exact status of negation in Modern Mandarin and different proposals co-exist, as also observed by Cheng & Sybesma (2004: 438-39). For example, Hsieh Miao-ling (2001: 61) assigns functional status to the negation *méi* and adverb status to *bù*, but her assumption that the functional head *méi* is located below AspP does not make the correct predictions for sentences such as (51) where *méi* is to the left of verb plus aspect suffix *-guo*. Ernst (1995) posits Spec, VP or Spec, AuxP as position for negation, while Cheng & Sybesma (2004: 439) themselves provisionally assume that *bù* occupies the specifier position of ModP in the extended verbal projection. In any case, irrespective of the precise status of negation, adverb or functional head (selecting its complement to the right), the preverbal position of negation is consistent with VO order.

To summarize this section, the extended verbal projection in Modern Mandarin is head-initial throughout: not only do we observe the order ‘V O’, but the same head-complement order likewise holds for the projections above VP such as AuxP and AspP up to IP/TP, i.e. the projection hosting the subject. Consequently there is no room for Li & Thompson’s (1974a) statement that modern Mandarin is OV or in the process of changing towards OV. Let us now turn to the construction cited as their main evidence for OV order, namely the *bǎ* construction.

2.2.2. The *bǎ* construction

Since the *bǎ* construction is one of the most extensively studied phenomena in Chinese linguistics, I do not attempt to give an overview of the existing literature, but refer the reader to the comprehensive discussion and references in Y.-H. Audrey Li (2006) (also cf. Huang, Li and Li 2009, ch. 5). Instead, I concentrate on those aspects of the syntactic analysis of *bǎ* that are important for the issue of word order at hand.

- (52) *Tā bǎ Lǐsì pāoqì -le*
 3SG BA Lisi abandon -PERF
 ‘She abandoned Lisi.’

⁶ This entails that so-called VP-level adverbs in fact adjoin to vP or AspP.

Note from the outset that in contrast to statements sometimes encountered in the literature (cf. Soh 1998 a.o.), the *bǎ* construction is not comparable to the obligatory object shift in Scandinavian languages which is contingent on verb raising to a *vP-external* position (cf. Holmberg 1986, 1999; Ferguson 1996 a.o.). On the contrary, definite DPs, proper names and pronouns may likewise occupy the canonical postverbal object position in modern Mandarin (cf. [53]).⁷ Furthermore, *bǎ* appears to the right of negation, i.e. neither the object following *bǎ* nor the verb have left the *vP* (cf. [54]):

- (53) *Tā pāoqì -le {Lǐsì/ wǒ -de péngyou/ wǒ}*
 3SG abandon-PERF Lisi/ 1SG-SUB friend / 1SG
 ‘She abandoned Lisi/my friend/me.’
- (54) *Tā méi bǎ {Lǐsì/ wǒ -de péngyou/ wǒ} pāoqì*
 3SG NEG BA Lisi/ 1SG-SUB friend / 1SG abandon
 ‘She has not abandoned Lisi/my friend/me.’

2.2.2.1. The origin of the *bǎ* construction

Etymologically, *bǎ* was a verb meaning ‘take, seize’; specialists in Chinese historical syntax generally treat it together with verbs including *jiāng* ‘take’ and *chí* ‘hold’ that underwent a parallel development (Wang Li 1958/88: ch. 47, Zhu Minche 1957, Peyraube 1985, 1996: 168).⁸ This set of ‘take’ verbs appeared in two distinct constructions: the object sharing construction in (55) and the instrumental construction in (56), which does not involve object sharing:

- (55) 巴粟与鸡呼朱 (洛陽伽蘭紀 *Luoyang Qielanji*, 6th c.;
[Bǎ sù yǔ jī hū zhūzhū] from Peyraube 1985: 197, [8])
 take grain give chicken call zhuzhu
 ‘While taking the grains and giving [them] to the chicken, he called out *zhu zhu*.’

In (55), the object of *bǎ* ‘take’, i.e. *sù* ‘grains’ is also the implicit (direct) object of the verb *yǔ* ‘give’.

- (56) 輕將玉杖敲花片 (張祜, 公子行 *Zhang Hu: Gong zi xing*, 9th c.;
Qīng jiāng yù -zhàng qiāo huā -piàn from Wang Li 1958/88: ch. 47: 539)
 lightly take jade-stick tap flower-petal
 ‘Taking a stick of jade, she lightly tapped on the flower petals.’

In (56), by contrast, no object sharing is involved: the object of the verb *jiāng* ‘take’ in the adjunct clause is *yùzhàng* ‘jade stick’, while the object of the matrix verb *qiāo* ‘tap’ is *huā-piàn* ‘flower’.

Adopting a VP complementation analysis for object sharing (Larson 1991, Collins 1997), the verbal projection headed by *bǎ* in sentence (55) can be analysed as follows:

- (57) [_{VP} *bǎ* [_{VP1} *sù* [_{VI} *t_{ba}* [_{VP2} *pro yǔ*]]]]
 take grain give

⁷ For reasons of space, I will not discuss this optionality here, but refer the reader to the discussion of the semantic properties of the NP in the *bǎ* construction by Sybesma (1999) and Y.-H. Audrey Li (2006). Suffice it to point out that the constraints holding in the *bǎ*-construction lead to the interpretation of a bare object NP as definite (cf. [ii]), in contrast to the postverbal position (cf. [i]) where often both an indefinite and a definite reading of bare NPs are possible:

- (i) *Qǐng nǐ gěi wǒ bǐ* (Y.-H. Audrey Li 2006: 422-423 (111a-b))
 please 2SG give 1SG pen
 ‘Please give me the pen/a pen.’
- (ii) *Qǐng nǐ bǎ bǐ gěi wǒ.*
 please 2SG BA pen give 1SG
 ‘Please give me the pen.’ [unavailable: ‘Please give me a pen.’]

⁸ While *bǎ* is used in Modern Mandarin, *jiāng* is its counterpart in more formal registers of present day Cantonese, Hakka and Minnanhua (Taiwanese).

In (57) the verb *bǎ* ‘hold, take’ selects the second VP headed by *yǔ* ‘give’ as its complement. The object *sù* ‘grains’ shared by both verbs, *bǎ* and *yǔ*, is merged in the specifier of the VP₁ headed by *bǎ* and controls *pro* in the complement VP₂. *Bǎ* moves to *v*, deriving the surface order.

By contrast, the instrumental construction involves an adjunction structure as in (58). Accordingly, there is no control relation between the object of the verb (*V*₁) in the adjunct clause and the object of the matrix verb (*V*₂):

- (58) [_{VP} *qīng* [_{VP} [_{VP1} *jiāng yù -zhàng*] [_{VP} *qiāo* [_{VP2} *t_{qiao} huā -piàn*]]]]
 lightly take jade-stick tap flower-petal

While traditional analyses are perfectly aware of these two environments for ‘take’ verbs (cf. Zhu Minche 1957: 24), they content themselves with observing the different interpretation possibilities and do not posit two corresponding distinct structures. Instead, they either assume an adjunction structure as in (58) for both cases (Zhu Minche 1957, Wang Li 1958/88: ch. 47) or a coordinate structure (Peyraube 1985: 208; Cui Guibo 1984). This notwithstanding researchers agree, following Zhu Minche (1957), that the object sharing pattern in (57) is the source structure for the modern *bǎ* construction, the earliest examples of which are attested since the 8th c. (cf. [59]). (Note that there is no instrumental pattern with *bǎ* in modern Mandarin.)

- (59) a. 獨把梁州凡幾拍 (顧況詩 *Gu Kuang shi*, 8th c.;
 Dú bǎ Liángzhōu fán jǐ pāi from Zhu Minche 1957: 28)
 alone BA Liangzhou melody several.times play
 ‘Alone, I’ll play the Liangzhou melody several times.’
 b. 孫子將一鴨私用 [...] 鞭二十....
 Sūnzǐ jiāng yī-yā sī yòng [...], biān èrshí
 grandson JIANG 1-duck privately use whip 20...
 ‘When the grandson uses a duck for himself, [...] [he will receive] 20 whiplashes.’
 (張鷟, 朝野僉載 *Zhang Zhuo, Chao ye qian zai*; 8th c. from Zhu Minche 1957: 18)

Given that *Liángzhōu fán* ‘Liangzhou melody’ is an abstract object NP, hence unacceptable as object of the verb *bǎ* ‘seize, hold’, *bǎ* clearly cannot be analysed as a (lexical) verb here. Furthermore, as to be discussed in detail below (cf. section 2.2.2.2), the presence of the frequentative adverb *jǐ* ‘several times’ below *bǎ* and the following NP likewise indicates that (59a) represents the structure after the reanalysis of *bǎ* has taken place. The same observation applies to (59b) where the manner adverb *sī* ‘privately’ precedes the verb *yòng* ‘use’ below *jiāng* and the NP.

Consequently, the traditional analysis of modern *bǎ* as a preposition (cf. Li & Liu 1955; Wang Li 1958/88, ch. 47; Chao 1968) subsequently adopted by Li and Thompson (1974a) implies the following change:

- (60) [_{VP} *bǎ* [_{VP1} NP_{obj} [_{V1} *t_{ba}* [_{VP2} *pro* V₂]]]] > [_{VP} [_{PP} *bǎ* NP_{obj}] [_{VP} V]]

While in the source object sharing structure *bǎ* as head of VP₁ is the main verb and VP₂ its complement, in the output structure we obtain more or less the exact opposite hierarchy: the erstwhile complement VP is now the main VP, and the phrase headed by *bǎ* – now a PP due to V-to-P reanalysis of *bǎ* – is adjoined to it.⁹ As a consequence, the originally shared object is now the object of the (erstwhile second) verb.

According to Li and Thompson (1974a) then, the example of the *bǎ* construction in Modern Mandarin given at the outset of this section has the following structure (abstracting away from V-to-Asp movement here):

⁹ Rearrangement of the original hierarchical relations is also observed when adopting as source structure the symmetric coordinate VP structure assumed by Peyraube (1985):

(i) [_{VP1} *ba* NP_{obj}] [_{VP2} V₂ *pro*] > [[_{VP} [_{PP} *ba* NP_{obj}] [_{VP} V]]]

- (61) *Tā* [[_{VP} [_{PP} *bǎ* *Lǐsì*] [_{VP} *pāoqì* -*le*]] (= [52] above)
 3SG BA Lisi abandon -PERF
 ‘She abandoned Lisi.’

2.2.2.2. A new analysis for *bǎ* in modern Mandarin

Although this prepositional analysis of *bǎ* became the standard analysis in Chinese linguistics (cf. Mei Kuang 1980, Huang 1982; Peyraube 1985, 1996; Y.-H. Audrey Li 1990 a.o.), it was never judged really satisfactory. One of the numerous questions raised from the very beginning was how to account for the relation of subcategorization between the verb and its object NP when the latter was contained in an adjunct PP. Similarly, assuming movement of the object from the VP into the adjunct PP created the problem that the object could not c-command its trace (also cf. section 2.2.2.3 below). Furthermore, in many respects *bǎ* in modern Mandarin precisely did not pattern with prepositions. All these interrogations led to the by now widespread consensus that *bǎ* is best viewed not as a preposition, but as the head of a higher (functional) projection above the verb phrase (Sybesma 1992, 1999; Zou 1993, Whitman 2000, Whitman and Paul 2005; Y.-H. Audrey Li 2001, 2006; Paul 2002 a.o.).¹⁰ In the light of this new approach, the observations incompatible with the prepositional status of *bǎ* can now be accounted for.

First of all, as observed by Wu Meng (1982: 434) it is possible to conjoin two occurrences of preverbal object plus VP under *bǎ* (bracketing added):

- (62) *Māma* [...] [*bǎ* [[*dì* *cà* -*le* *yòu* *cà*] [*zhuōzi* *mā* -*le* *yòu* *mā*]]
 Mom BA floor scrub-PERF again scrub table wipe-PERF again wipe
 ‘Mom again and again scrubbed the floor and again and again wiped the table.’

Wu Meng (1982) explicitly cites (62) as problematic for the alleged prepositional status of *bǎ* and points out that no other preposition can take two “discontinuous” complements (here *dì* ‘floor’ and *zhuōzi* ‘table’).

(63) below is of the same type as Wu Meng’s (62):

- (63) *Nǐ* *zuì* *hǎo* *bǎ* [[*Zhāngsān* *jièshào* *gěi* *Lǐsì*], [*Wángwǔ* *jièshào* *gěi* *Lǎoli*]]¹¹
 2SG most good BA Zhangsan introduce to Lisi Wangwu introduce to Laoli
 ‘You’d better introduce Zhangsan to Lisi and Wangwu to Laoli.’

¹⁰ The analysis of *bǎ* as a non-prepositional head goes back to Anne Yue Hashimoto (1971) who considers it a verb. Hashimoto proposes a ternary branching structure where *bǎ* takes both an NP and a clause as its complements. Ross (1991), Chen Xilong (1993), Bender (2000) basically follow Hashimoto’s analysis. Crucially, under this analysis, the NP following *bǎ* is not contained in the complement VP of *bǎ*; accordingly the coordination data in (62) and (63) cannot be accounted for.

¹¹ (63) and the argument based on it are due to Thomas Ernst, who attributes them to Audrey Li. The original example provided by Ernst (cf. [i]) is, however, not conclusive, because it can also be parsed as containing two conjoined clauses, the second of which is a topic-comment structure:

- (i) [*Wǒ* *bǎ* *Zhāngsān* *jièshào* *gěi* *Lǐsì*], [_{topic} *Wángwǔ*]_i [_{pro} *jièshào* *t_i* *gěi* *Lǎoli*]
 1SG BA Zhangsan introduce to Lisi Wangwu introduce to Laoli
 ‘I introduce Zhangsan to Lisi; as for Wangwu, I introduce [him] to Laoli.’

Adding an adverbial phrase like *zuì hǎo* ‘better’ as in (63) makes the parsing of the second conjunct as a topic-comment structure impossible.

In fact, some native speakers show the same parsing ambiguity for Wu Meng’s sentence and interpret the second clause in (62) as a topic-comment structure: ‘Mom again and again scrubbed the floor; the table, [she] again and again wiped’. Again it suffices to embed the sentence further e.g. under *shì bù shì* ‘is it the case or not’ in order to exclude this parsing and to obtain the structure intended by Wu Meng (1982):

- (ii) *Māma* *shì* *bù* *shì* [*bǎ* [[*dì* *cà* -*le* *yòu* *cà*] [*zhuōzi* *mā* -*le* *yòu* *mā*]] ?
 Mom be NEG be BA floor scrub-PERF again scrub table wipe-PERF again wipe
 ‘Is it the case that Mom again and again scrubbed the floor and again and again wiped the table?’

Note finally that it is evidently possible to conjoin two projections headed by *bǎ* as well:

- (iii) *Tā* *zuì* *hǎo* [[*bǎ* [*Zhāngsān* *jièshào* *gěi* *Lǐsì*]], [*bǎ* [*Wángwǔ* *jièshào* *gěi* *Lǎoli*]]
 3SG most good BA Zhangsan introduce to Lisi BA Wangwu introduce to Laoli
 ‘He’d better introduce Zhangsan to Lisi and Wangwu to Laoli.’

These examples confirm that *bǎ* is a higher head selecting a verbal projection as complement, which in turn can be a coordinated structure. They would be difficult to explain if *bǎ* and the immediately following NP formed a constituent, as the prepositional adjunct analysis of *bǎ* in (61) holds. Note that the behaviour of *bǎ* in (62) and (63) contrasts sharply with (64), where a true adjunct PP is involved:

- (64) *Wǒ zhīdao nǐ [PP duì wǒ] hěn yǒu yìjiàn , [PP *(duì) Amēi] yě hěn yǒu yìjiàn*
 1SG know 2SG towards 1SG very have prejudice toward Amei also very have prejudice
 ‘I know that you are very prejudiced against me, and also against Laoli.’

(64) is totally ungrammatical without the second occurrence of the preposition *duì* ‘towards’.

A further argument against the prepositional analysis of *bǎ* is its inability to appear as a modifier of a relational DP, in contrast with prepositions such as *duì* ‘towards’:¹²

- (65) a. *[DP Zhāngsān [PP duì /*bǎ zhèi-jiàn shì] de ānpái] bù tuǒdàng*
 Zhangsan towards/BA this-CL matter SUB arrangement NEG suitable
 ‘Zhangsan ‘s arrangement of this matter is not suitable.’
 b. *Zhāngsān [duì zhèi-jiànshì] bǎ xijié dōu ānpái -hǎo -le*
 Zhangsan towards this-CL Matter BA detail all arrange-good-PERF
 ‘Zhangsan with respect to that matter arranged all the details.’ (Fu Jingqi, p.c.)

As (65b) illustrates, *bǎ* can introduce the object DP of the verb *ānpái* in a verbal projection, but not in its nominal counterpart (65a). The unacceptability of *bǎ* in (65a) also shows that *bǎ* as a higher verbal head has to be distinguished from lexical verbs, since verbs such as the relative of *bǎ* (descendent from the same root), meaning ‘guard,’ can head the VP in a relative clause.

- (66) *[DP [rel.clause bǎ mén] de nèi-ge rén] shuìzháo le*
 guard door SUB that-CL person fall.asleep SFP
 ‘The person who guards the door has fallen asleep.’

(For evidence against a verbal analysis of *bǎ*, also cf. Y.-H. Audrey Li 2006: 380-81.)

Last, but not least, since *bǎ* and the following NP do not form a constituent (cf. [67]), they cannot be topicalized to the left of the subject as PPs can (cf. [68] and [69]):¹³

¹² Prepositions are not allowed as modifiers of non-relational nouns, but must be embedded in a relative clause:

(i) **[NP [PP duì tā] de huà]* vs. (ii) *[NP [TP wǒ [PP duì tā] shuō] de huà]*
 towards 3SG SUB word 1SG towards 3SG speak SUB word
 (intended: ‘the words for him’) ‘the words I spoke to him’

¹³ By contrast, Y.-H. Audrey Li (2006: 382) reports acceptable sentences of precisely this type (also cf. Huang, Li, and Li 2009):

(i) *Bǎ zhèi-kuài ròu, nǐ xiān qiē qiē ba!* (Y.-H. Audrey Li 2006: 382; (15b);
 BA this-CL meat 2SG first cut cut SFP Huang, Li, and Li 2009: 167; (34b))
 ‘Cut the meat first.’
 (ii) *Bǎ nà -duī wénzhāng, wǒ zǎo jiù gǎi -hǎo -le.* (Y.-H. Audrey Li 2006: 459; note 20, (i);
 BA that-pile article 1SG early then correct-finish-PERF Huang, Li, and Li 2009: 167; note 23, (i))
 ‘I corrected that pile of articles long ago.’

However, so far I have not been able to find any native speaker, be it from mainland China or Taiwan, who can replicate these judgements. Instead, they agree on the acceptability of the following structures:

(iii) *Zhèi-kuài ròu, nǐ xiān qiē qiē ba!*
 this-CL meat 2SG first cut cut SFP
 ‘Cut the meat first.’
 (iv) *(Nǐ) xiān bǎ zhèi-kuài ròu qiē qiē ba!*
 2SG first BA this-CL meat cut cut SFP
 ‘Cut the meat first.’

In (iii), the object NP *zhèi-kuài ròu* ‘this piece of meat’ is topicalized, whereas in (iv) *bǎ* and its complement are sentence-internal as required, the subject *nǐ* ‘you’ being optional in the imperative.

- (67) (**bǎ shū*) *Nǐ kěyǐ bǎ shū fàng zài zhuōzishàng*
 BA book 2SG can BA bookput at table on

(**bǎ dàyī*) *nǐ kěyǐ bǎ dàyī fàng zài chuángshàng*
 BA coat 2SG can BA coat put at bed on

‘The books, you can put on the table, the coat, you can put on the bed.’

- (68) [_{PP}*Gěi Mǎlì*], *wǒ (gěi Mǎlì) zuò -le húnduntāng*, (Paul 2002: 164)
 for Mary 1SG for Mary make-PERF wonton.soup

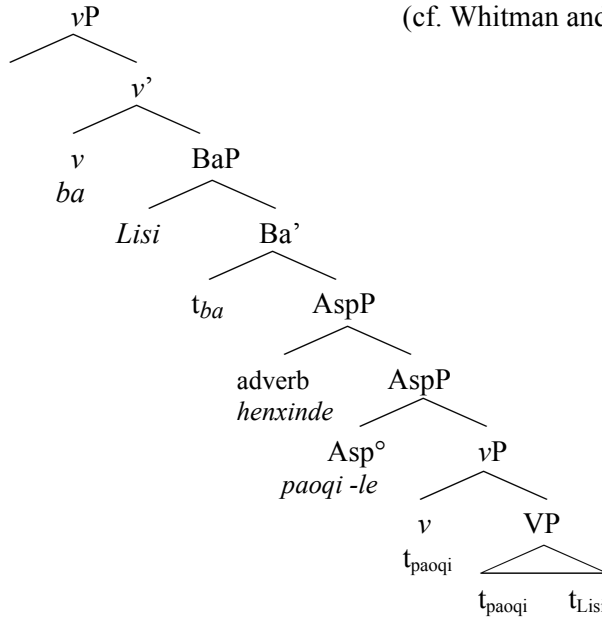
[_{PP}*gěi Amēi*], *wǒ (gěi Amēi) zuò -le chǎomiàn*
 for Amei 1SG for Amei make-PERF fried.noodles

‘For Mary, I made wonton soup, for Amei, fried noodles.’

- (69) *Yóujú , [_{PP} *cóng zhèr*], [_{TP} *nǐ wàng nán qù*]* (Lü Shuxiang et al. 1980: 130)
 post.office from here 2SG toward south go
 ‘The post office, from here, you go south.’

The analysis of the *bǎ* construction in modern Mandarin proposed here shares the basic assumptions of previous analyses of *bǎ* as a higher head above the verb phrase, i.e. *bǎ* takes a verbal projection as its complement (*vP* or *AspP*) and does not assign a thematic role to the NP following it. It differs, however, from these analyses (to be presented immediately below) in postulating movement of the object NP (here *Lǐsì*) to Spec, *BaP* as well as movement of *bǎ* to the higher *v*:¹⁴

- (70) (cf. Whitman and Paul 2005: 88, [16])



On the basis of (i) and (ii), Y.-H. Audrey Li (2006: 383) as well as Huang, Li and Li (2009: 167) conclude that besides a “head taking [NP VP] as its complement” *bǎ* can also be analysed as a preposition (so Y.-H. Audrey Li 2006: 383) or as “retain[ing] the verbal property with the meaning of ‘handle, deal with’ ” (so Huang, Li, and Li 2009: 178). It is, however, left open how to choose between these two analyses in the case of a sentence-internal *bǎ*-construction, which not only raises a problem for the linguist, but much more so for the child learner.

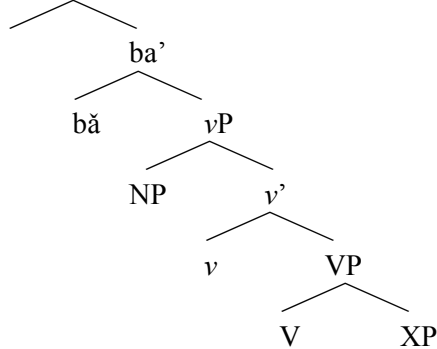
¹⁴ Carstens (2002) proposes a movement analysis for similar constructions in Yoruba and other Niger-Congo languages.

- (71) *Tā bǎ Zhāngsān hěnxīnde pāoqì -le.* (Tsai Mei-chih 1995: 166)
 3SG BA Zhangsan cruelly abandon -PERF
 ‘She heartlessly abandoned Zhangsan.’

A concrete argument for the movement analysis is the acceptability of VP-level adverbs (e.g. manner adverbs, *hěnxīnde* ‘cruelly’ in (71), and frequentatives like *yòu* ‘again’ in (62) above) below *bǎ* and the following NP. This would be difficult to explain if the object had not moved into a position above *vP* or *AspP*, respectively. This low adverb position in combination with the derivation of aspect suffixes via V-to-*Asp*^o raising is also the motivation for having BaP itself selected by (the highest) *v*, inducing subsequent raising of *bǎ* to *v*.

This is different from the analysis proposed by Y.-H. Audrey Li (2006: 412) and adopted in Huang, Li and Li (2009: 182) where both *bǎ* and the object NP in the specifier position of the *vP* complement to *bǎ* remain *in situ*:

- (72) BaP (cf. Y.-H. Audrey Li 2006: 412, [93]; Huang, Li, and Li 2009: 182, [77])



Their analysis can, however, not be correct, because it leads to the wrong surface order when the verb moves on to *AspP* above *v* in order to adjoin to the aspect suffix: **bǎ* [_{AspP} V-*Asp* [_{vP} object NP [_{v'} t_V [_{vP} t_V XP]]], given that the preverbal object NP remains within the verbal complement of *bǎ* and does not raise further. Also note that adopting (72) forces Huang, Li and Li (2009) to adjoin adverbs occurring below *bǎ* to *v'*, i.e. a non-maximal projection (cf. Y.-H. Audrey Li 2006: 412; Huang, Li, and Li 2009: 177), in contrast to the standard assumption that adverbs adjoin to maximal projections.¹⁵ While adjunction to *v'* might still be countenanced within the adjunction approach to adverbs, it is completely incompatible with the cartographic view (cf. Cinque 1999) where an adverb is located in a dedicated projection whose head in turn selects a maximal projection as its complement. By contrast, in the analysis proposed here, an adverb below *bǎ* and the NP modifies a maximal projection (an *AspP* in (70)), a situation consistent both with the adjunction approach and the cartographic view.

Another claim put forward by Y.-H. Audrey Li (2006) and Huang, Li, and Li (2009: 172) does not bear further scrutiny, either, *viz.* that each *bǎ* sentence has a counterpart without *bǎ*. Complex predicates in the form of verb-object phrases (e.g. *bà zhǐ* ‘stop work’ = ‘to fire’) represent a class of systematic counterexamples. Because the “outer” object selected by such a ‘verb + (inner) object’ phrase is precisely excluded from the postverbal position, as already observed by Huang 1982 (section 2.3, examples (21a-d); also cf. Paul 1988 for further discussion):¹⁶

¹⁵ Recall that the same adverb distribution fact illustrated in (71) for modern Mandarin can be observed for the earliest examples of the *bǎ* construction (cf. [59] above) and is thus one of its hallmarks.

¹⁶ The same holds for verbs such as *dàngzuò* ‘consider as’ where it is impossible to have both NP arguments in postverbal position (cf. [ii]):

- (i) *Wángchéng bǎ xuéxiào dàngzuò-le zìjǐ de jiā.* (Lü Shuxiang et al (eds.) 1980: 151)
 Wangcheng BA school consider-PERF self SUB home
 ‘Wangcheng regards school as his home.’
 (ii) **Wángchéng dàngzuò-le xuéxiào zìjǐ de jiā.*
 Wangcheng consider-PERF school self SUB home

- (73) a. *Shàngjǐyào bǎ tā [vP bà zhǐ]* (cf. Paul 1988: 48)
 boss wantBA 3SG stop work
 ‘The boss wants to fire him.’
 b. **Shàngjǐyào [bà zhǐ] tā*
 boss want stop work 3SG
- (74) a. *Tā hái méi bǎ wénjiàn guī dàng*
 3SG still NEG BA document return file
 ‘He has not filed the documents yet.’
 b. **Tā hái méi [guī dàng] wénjiàn*
 3SG still NEG return file document
- (75) a. *Nǐ yīnggāi bǎ zhèi-ge cài huí guō*
 2SG must BA this-CL meal return pot
 ‘You have to cook this meal again.’
 b. **Nǐ yīnggāi [huí guō] zhèi-ge cài*
 2SG must return pot this-CL meal

In fact, as pointed out by Huang (1982, section 2.3) the unacceptability of sentences (73b) - (75b) is an immediate consequence of the PSC. The PSC allows the argument(s) subcategorized for by the verb itself to occupy the postverbal position; by contrast, it prohibits any constituent following such a complete verb phrase.¹⁷

As seen above, researchers agree now that *bǎ* is not a preposition, but a higher head selecting a verbal projection as its complement; it is not a functional category (*contra* Zou Ke 1993), because BaP in turn can be selected by negation and auxiliaries (cf. [73a] - [73b]). The general consensus does not go beyond this, given the different assumptions about the architecture of the extended verbal projection in the *bǎ* construction just discussed. Furthermore, the exact status of *bǎ* itself needs yet to be determined, as becomes evident when consulting Sybesma (1999), Y.-H. Audrey Li (2006) and Huang, Li, and Li (2009) who each devote an entire chapter to the *bǎ* construction and can therefore be taken as representative of recent research.

Sybesma (1992; 1999, ch. 6) extends his analysis of the *bǎ* construction as causative, based on the subset with resultative verb compounds such as *kū-lèi* ‘cry-tired’, to all instances:¹⁸

- (76) [_{CauseP} Zhèi-jìan shì [_{Cause} [_{Cause} bǎ] [_{VP} Zhāngsān [_{VP} kū [_{XP} t_{zhāngsan} [_{X°} lèi -le]]]]]]¹⁹
 this-CL matter BA Zhangsan cry tired-PERF

- (77) [_{CauseP} Zhèi-jìan shì [_{Cause} [_{Cause} kū-lèi -le] [_{VP} Zhāngsān [_{VP} t_{zhāngsan} t_{lei}]]]]
 this-CL matter cry-tired-PERF Zhangsan
 ‘This thing got Zhangsan tired from crying.’ (Sybesma 1999: 181; (108a-b); his translation)

As indicated above, the head *Cause* is either realized by the insertion of *bǎ* (cf. (76)) or by the verb raised from the VP complement of the head *Cause* (cf. [77]).

However, in the light of the data provided above (especially those lacking a “counterpart” without *bǎ*) as well as (78) and (79) below, even the very “loose” sense of causative does not hold for

¹⁷ If the unacceptability of [V inner object] outer object] were exclusively due to the case filter, so Huang (1982: 45; section 2.3), then the outer object should be fine in postverbal position when preceded i.e. case licensed by the preposition *bǎ*; however, the sequence ‘[V inner object] [*bǎ* outer object]’ is ill-formed.

¹⁸ The same analysis is adopted in Cheng and Sybesma (to appear; section 3.1.2), *modulo* the fact that *bǎ* is now explicitly stated to instantiate *v*.

¹⁹ Note that Sybesma (1999: 163-165) does not include the perfective aspect suffix *-le* in his causative structure (cf. his [79] and [84]); I therefore present it as forming a block with the verb.

all *bǎ* sentences, viz. “the subject brings about (‘causes’) a new state of affairs characterizable as the result of the event denoted by the verb” (Sybesma 1999: 180).

- (78) *Mǎlì bǎ zuótiān wǎnshàng de shì gàosu tā*
 Mary BA yesterday evening SUB affair tell 3SG
 ‘Mary told him about last night’s affair.’

- (79) *Tā néng liánxù bǎ zhè-zhǒngwèntí xiǎng jǐ -ge xiǎoshí* (Paul 2002: 161)
 3SG can continuously BA this-kind problem think several-CL hour
 ‘He can think about this kind of problem for hours at a stretch.’

Furthermore, the structure proposed by Sybesma (1999: 180) illustrated in (76) makes wrong predictions. For example, it cannot be correct that the NP following *bǎ* occupies a VP-adjoined position, given the acceptability of adverbs precisely below this NP (cf. [71] above). It is not clear, either, how sentences where *bǎ* selects a conjunction of two verbal projections (cf. [62] - [63] above) can be accommodated in Sybesma’s analysis, where the NP is not in the specifier of *bǎ*’s complement, but adjoined to it. Last, but not least, the complement selected by *bǎ* can be a verbal projection larger than a simple VP, e.g. an AspP. While Sybesma (1999) explicitly rejects the prepositional analysis of *bǎ*, he does not address the issue of the properties of *bǎ* any further. Also note that while *bǎ* can be inserted into the head position of CausP, according to Sybesma (1999: 165, 179) it is this Cause head and not *bǎ* that selects the VP complement, *bǎ* being a “dummy”. This seems to imply that *bǎ* itself does not have any c-selectional properties. (For a critical appraisal of Sybesma 1999, also cf. Huang, Li, and Li 2009, section 5.6.).

Turning now to Y.-H. Audrey Li (2006: 383) and Huang, Li, and Li (2009: 167), they state that *bǎ* is the “head of a projection, taking [NP VP] as its complement.” In order to try to pin down the status of this head they compare *bǎ* with its counterpart *ka* in (the spoken register of) Taiwanese.²⁰ Given that unlike *bǎ*, *ka* can assign a theta role to the following NP, they conclude that “the *bǎ* construction in Mandarin can be viewed as a more grammaticalized and emptier version of the *ka* construction in Taiwanese.” (Huang, Li and Li 2009: 185). In other words, “*ka* is more ‘lexical’ than *bǎ*: *ka* can directly assign a thematic role (an affected theta-role) to the *ka* NP. *Bǎ*, on the other hand, does not assign a thematic role. A *ka* NP can be base-generated, but a *bǎ* NP always originates from within the verb phrase.” (Y.-H. Audrey Li 2006: 412).²¹ Unfortunately, this does not provide a straightforward result, but rather transfers the question to the precise status of *ka*, which is left open. Summarizing then, Y.-H. Audrey Li (2006) and Huang, Li, and Li (2009) consider *bǎ* as a head, which selects a vP complement and which case-licenses the NP in the specifier position of this vP.

Based on Whitman (2000) and Whitman and Paul (2005), I propose the following somewhat more detailed analysis. Heading a projection within the extended verbal projection, *bǎ* has a categorial [+V, -N] feature. It also has an EPP feature triggering movement of the object NP to its specifier. Furthermore, *bǎ* has a c-selectional [V] feature to capture the obligatory verbal nature of its complement (vP or AspP, whose internal structure can in turn be very complex, cf. [80b] below). In other words, *bǎ* is very much like small *v* in that it heads a phrase above the lexical VP and hosts an argument, i.e. the object selected by the verb or the VP, respectively (*modulo* the difference that Spec,BaP is a case licensing position, unlike Spec,vP). Evidently, this is not to imply that *bǎ* realizes the vP immediately dominating the (lexical) VP and to whose head the verb raises by default. Instead, BaP is a higher *v*-like projection, i.e. at least higher than AspP (cf. [70] above). Note that BaP is not the only higher argument hosting projection to be postulated in Chinese, but shares properties with

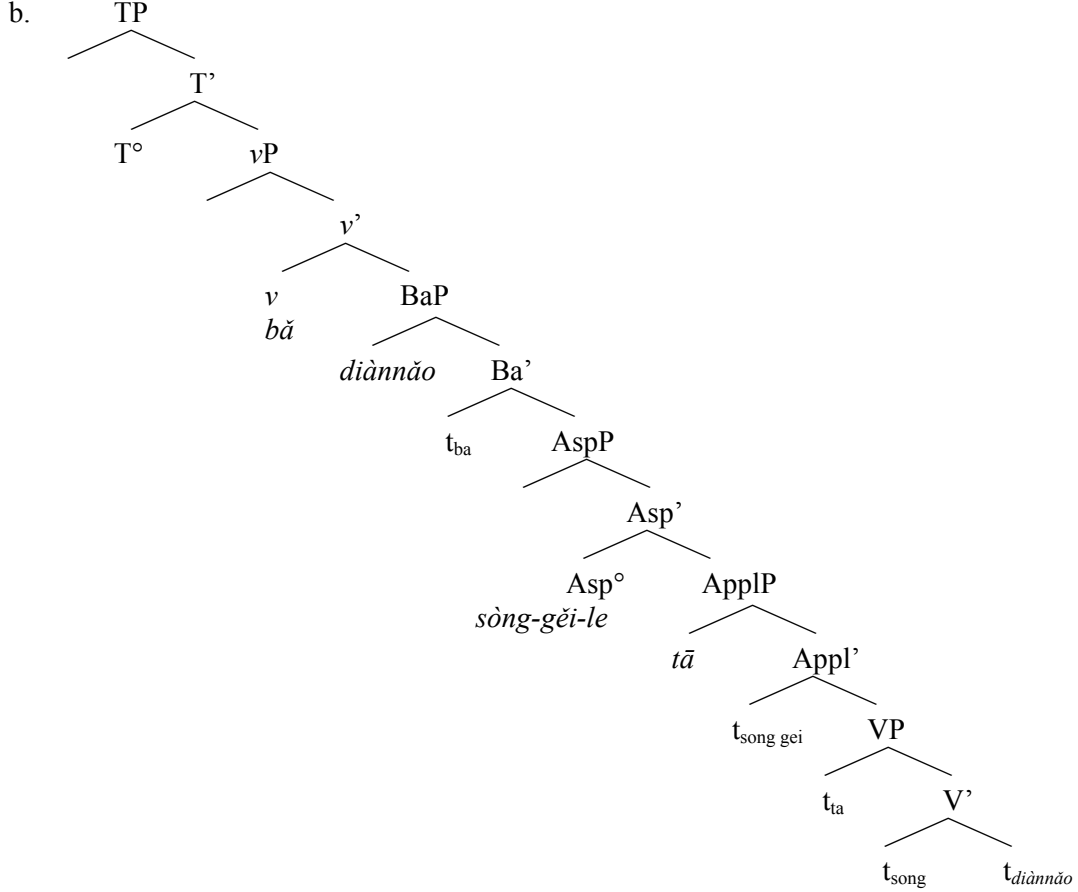
²⁰ I abstract here from their proposal that *bǎ* can be a preposition (cf. footnote 18 above) and concentrate on *bǎ* selecting a verbal projection as complement only.

²¹ Given the translation of her example (i) cited as support of this observation (Y.-H. Audrey Li 2006: 412, [92]), it is not excluded, though, that the *ka* claimed to assign an affected theta role (i.e. the first instance: *ka gua* ‘KA me’) is in fact an instance of an ethical dative PP headed by the homophonous preposition *ka* ‘for’:

(i) *Li-e syaNim na ka gua se -ka molang thiaN-u , gua e ka li si taolo*
 your voice if KA me small-extent nobody hear -have I will KA you fire job
 ‘If your voice is so small that nobody can hear you(at my cost), I will fire you.’
 [Transliteration and glosses as given by Y.-H. Audrey Li].

Applicative Phrase (cf. Paul and Whitman 2010). ApplP selects the VP projected by a double object donatory verb and via its EPP feature attracts the goal argument to its specifier. As illustrated in (80b), the donatory verb *sòng* ‘give (as a present)’ raises and left-adjoins to the head of ApplP, i.e. *gěi*, and the resulting sequence *sòng-gěi* then raises on to the head of AspP, the perfective aspect suffix *-le*.

- (80) a. *Wǒ bǎ diànnǎo sòng-gěi-le tā*
 1SG BA computer give-GEI-PERF 3SG
 ‘I gave him a computer (as a present).’



Incidentally, this type of sentence where the NP following *bǎ* is the theme argument of a donatory verb again shows that Spec,vP (immediately above the lexical VP) as position hosting the object NP in the *bǎ* construction as proposed in Huang, Li and Li (2009) (cf. [81]) is much too low and leads to incorrect predictions.

- (81) [_{BaP} subject [_{Ba'} *ba* [_{vP} NP [_{v'} *v* [_{VP} *t_{NP}*]]]]] (= (72) above)

Clearly, the architecture of the extended verbal projection in Chinese is much more articulate than what Huang, Li, and Li (2009) assume in (81) and consequently, the complement selected by *bǎ* can be much more complex than just a simple vP.²²

The complex structure of the verbal projection headed by *bǎ* is likewise visible in the interpretation differences observed for an adverb located above *bǎ* vs. below *bǎ*:

²² In fact, as is well-known and discussed at length by Y.-H. Audrey Li (2006) and Huang, Li and Li (2009) *bǎ* rarely selects a complement as small as vP; instead, when the verb on its own constitutes the vP, the minimal size is rather AspP:

- (i) *Tā bǎ péngzi chāi *(-le)*
 3SG BA shack demolish -PERF
 ‘He demolished the shack.’ (Li Linding 1987: 31)

- (82) a. *Nǐ zài [vP bǎ [BaP t_{ba} chēzi [vP yòng [vP t_{yong} sān-tiān]]]] ba!*
 2SG again BA car use 3 -day SFP
 ‘You can again have the car for three days.’
- b. *Nǐ [vP bǎ [BaP t_{ba} chēzi [vP zài [vP yòng [vP t_{yong} sān-tiān]]]] ba!*
 2SG BA car again use 3 -day SFP
 ‘You can have the car for another three days.’

As I have tried to capture in the translation, when *zài* ‘again’ precedes *bǎ*, it scopes over the entire event and implies that at some time in the past the car had already been borrowed for three days. When *zài* ‘again’ occurs below *bǎ*, it only scopes over the lower vP and is interpreted as bearing on the duration expression *sān-tiān* ‘three days’; accordingly (82b) is a permission to extend the lending period for another three days.

Similarly, as observed by Tsai Mei-chih (1995: 166) manner adverbs have a strict “ad-VP” interpretation when occurring below *bǎ*, thus contrasting with the subject-oriented reading when preceding *bǎ*:

- (83) a. *Tā hěnxīnde bǎ Zhāngsānpāoqì -le.* (Tsai Mei-chih 1995: 166)
 3SG cruelly BA Zhangsan abandon-PERF
 ‘She heartlessly abandoned Zhangsan.’
- b. *Tā bǎ Zhāngsānhěnxīnde pāoqì -le.*
 3SGBA Zhangsan cruelly abandon-PERF
 ‘She heartlessly abandoned Zhangsan.’

When the adverb *hěnxīnde* ‘heartlessly’ precedes *bǎ*, the subject *tā* ‘she’ is described as heartless (in general), while the adverb below *bǎ* indicates that only her action of leaving Zhangsan was heartless.

To summarize, upon careful analysis the very construction presented as main evidence by Li and Thompson (1974a) for their claim of modern Mandarin as an SOV language turns out to involve head-complement order in accordance with VO. More precisely, *bǎ* selects a verbal projection to its right and the surface preverbal object occupies the specifier position of this head-initial BaP.

2.2.2.3. *Bǎ* and the relation between synchrony and diachrony

The analysis obtained for *bǎ* is also a neat illustration of how to conceive the relation between synchrony and diachrony. Note that the unsatisfying prepositional analysis of *bǎ* in modern Mandarin that got finally discarded is also untenable from a diachronic point of view, as argued for in detail by Whitman (2000). Whitman demonstrates that reanalysis can only change features in the relevant heads (*relabelling*), whereas the hierarchical relations, i.e. the c-command relations between the constituents in the source structure, must be maintained in the output structure (*Conservancy of structure constraint*). As already alluded to above, the prepositional analysis of modern *bǎ* implies a complete rearrangement of the hierarchical relations holding in the object sharing source structure, a scenario precisely excluded by Whitman’s *Conservancy of structure constraint*. By contrast, the revised analysis of *bǎ* respects the hierarchy present in the source structure and at the same time can solve problems which had remained unexplained under the prepositional analysis of *bǎ*. For ease of comparison, all the relevant structures are repeated below.

Object sharing source structure:

- (84) *[vP bǎ [vP1 sù_i [v1 t_{ba} [vP2 pro_{yǐ} jī]]]* (= [57])
 take grain give chicken
 ‘take the grains and give them to the chicken’

In (84) the verb *bǎ* ‘seize, hold’ selects the second VP headed by *yǔ* ‘give’ as its complement. The object *sū* ‘grains’ shared by both verbs, *bǎ* and *yǔ*, is merged in the specifier of the VP headed by *bǎ* and controls *pro* in the complement VP. *Bǎ* moves to *v*, deriving the surface order.

Modern bă as a higher head selecting a verbal projection:

- (85) ${}_{\text{VP}} \text{bā} [{}_{\text{BaP}} \text{Lǐsǐ} [{}_{\text{Ba}'} \text{t}_{\text{ba}} [{}_{\text{AspP}} \text{hěnxīnde} [{}_{\text{AspP}} \text{pāoqi} \text{-le} [{}_{\text{VP}} \text{t}_{\text{paoqi}} [{}_{\text{VP}} \text{t}_{\text{paoqi}} \text{t}_{\text{Lisi}}]]]]]]]]$
 BA Lisi cruelly abandon-PERF

Modern bă as a preposition heading a preverbal adjunct phrase

- (86) $[_{AspP} [_{PP} \text{bā } L\dot{s}i] [_{AspP} \text{hěnxīnde } [_{AspP} \text{pāoqi} \text{-le } [_{vP} t_{paoqi} [_{VP} t_{paoqi} t_{L\dot{s}i}]]]]]]$
 BA Lisi cruelly abandon-PERF

When comparing (84) with (85) we see that in both the source structure and the modern structure, *bǎ* heads the complex verb phrase and selects a verbal projection as complement. Consequently, the hierarchical relations of the source structure are conserved in the modern *bǎ* construction. The changes that have occurred are as follows. First, *bǎ* no longer assigns a thematic role to the NP following it, unlike the ‘take’ main verb in the object sharing structure. Instead, the NP is assigned its theta role, (affected) patient, by the verbal projection as a whole. Second, the NP in the Spec of BaP (*Lisi* in [85]) moves to that position, as witnessed by the position of adverbs to its right. Third, the very same acceptability of adverbs below *bǎ* attested from the beginning of the modern *bǎ* construction on (cf. [59] above dating from the 8th c.) also indicates that *bǎ*’s complement is minimally a vP, that is larger than just a VP, the latter commonly assumed to be the size of the complement in object sharing constructions (cf. Collins 1997 a.o.). In fact, as illustrated in (80) above, the complement selected by *bǎ* can be a rather articulated verbal projection containing several subprojections such as AspP and ApplicativeP. In other words, concomitant with the reanalysis of *bǎ* as a *v*-like head the size of its complement changed and could now be a much more articulate structure than just a plain VP, resulting in a rather high position for *bǎ* in the extended verbal projection in Chinese.

This view of the relation between synchrony and diachrony is much more appropriate and in accordance with standard assumptions than the so often evoked “verbal origin” of *bǎ* claimed to be responsible for its present day properties (so most recently in Huang, Li, and Li 2009: 178; cf. footnote 19). Note that the child acquirer is only exposed to the synchronic data and has no access to (knowledge about) earlier stages of the language, nor does the average native speaker dispose of such information. The only “remnant” of the “verbal origin” of *bǎ* in present day Mandarin is the hierarchy between the head *ba* and its complement, a relation readily discernible on the basis of synchronic data alone.

Let us now turn to the prepositional analysis of *bǎ* in (86) and examine the consequences of this choice both for synchrony and diachrony. First, as is easy to see, in (86) the hierarchical relations of the object sharing source structure in (84) are not maintained. Quite on the contrary, the former head of the complex verb phrase, *bǎ*, is now contained in an adjunct phrase, which like the adverb *hěnxīnde* ‘cruelly’ modifies AspP; this main verbal projection AspP in turn is headed by the complex head ‘V-Asp’ where the verb was originally contained in the former complement VP. Whitman’s *Conservancy of structure constraint* could only be respected if such an adjunction structure were to be postulated not only for the output structure, but also for the source structure. However, in addition to the problems with a prepositional analysis of *bǎ* already outlined, there exist other arguments showing that the adjunction structure is not a feasible analysis, neither for modern *bǎ* nor for the source structure.

If indeed an adjunction structure is chosen as source structure (cf. [87]), as proposed by Zhu Minche (1957) and Wang Li (1958/88: ch. 47), the interpretation associated with it must be ‘take grains and give [them] to the chicken’ in order to obtain the object sharing reading agreed upon by the specialists of Chinese historical syntax:

- (87) $[_{VP2} [_{VP1} \text{bǎ sù}] [_{VP2} \text{pro yǔ jī}]]$
 BA grain give chicken
 ‘take grains and give [them] to the chicken’

In other words, it is the adjunct VP, *bǎ sù*, that contains the overt object NP which needs to control the empty category in the main VP headed by *yǔ* ‘give’ in order to account for the observed co-referentiality between *sù* ‘grains’ and this empty category. However, a closer look reveals that an adjunction structure like (87) cannot be the correct structure for object sharing *bǎ*.

Importantly, unlike what we observe for the *bǎ* construction (cf. [90] below), where co-reference between the *bǎ*-NP and the empty category following the verb is obligatory, the empty category in the main VP *can*, but *need not* be coreferential with the object NP contained in the adjunct VP (VP₁):

- (88) *Lǐsì* [_{VP} [_{VP1} *chòng-zhe Wángwǔ_i*] [_{VP} *pīpíng* [_{VP2} *t_{pipíng} biérén* / *pro_{i/j}*]]]
 1SG face -DUR Wangwu criticize somebody.else
 ‘Facing Wangwu_i, Lisi criticized somebody else/him_{i/j}.’

The object *pro* in the main VP can either be coreferential with the object in the adjunct VP or refer to a third person, as does the overt NP *biérén* ‘somebody else’.

The same holds for the control relation between the complement of an adjunct PP and the empty object in the main VP:

- (89) *Tā* [_{VP} [_{PP} *wèile Wángwǔ_i*] [_{VP} *bāng-le Mǎlì / *pro_{i/j}* nèi-ge máng*]]
 3SG for Wangwu assist-PERF Mary that-CL occupation
 ‘For Wangwu’s_i sake, he lent Mary/him_{i/j} a hand.’

In (89), *pro* can be coreferential with *Wángwǔ*; crucially, however, this empty category can also refer to a person different from Wangwu, i.e. *pro* here can be on a par with the overt NP *Mǎlì*.

While there is some variation between native speakers with respect to the availability of the coreferentiality reading for *pro* in the main clause, they all accept the *disjoint* reference interpretation. This is completely excluded in the case of the *bǎ* construction where coreferentiality is obligatory, because the empty category (in the form of a trace or a copy) in the verbal complement projection results from raising of the NP to Spec, BaP:

- (90) *Wǒ yǐjīng* [_{AspP} *bǎ* [_{BaP} *Wángwǔ_i t_{ba}* [_{AspP} *pīpíng -le* [_{VP} *t_i hǎojǐ cì*]]]] *le*
 1SG already BA Wangwu criticize-PERF so.many time SFP
 ‘I have already criticized Wangwu many times.’
 (Excluded reading: ‘I have criticized somebody else than Wangwu.’)

This fact constitutes an additional argument against the prepositional analysis of modern Mandarin *bǎ* with the *bǎ* PP in adjunct position and, by extension, against positing such an analysis for the object sharing construction having served as its input.

2.2.3. Summary: Word order in Modern Mandarin and the *bǎ* construction

The preceding section on word order in modern Mandarin has provided ample evidence invalidating Li and Thompson’s (1974a) claim that present day Chinese is in the process of changing into an OV language. On the contrary, the extended verbal projection in modern Mandarin displays systematic head-complement order in accordance with VO order: verbs (including double object verbs) precede their object(s), and auxiliaries their verbal complements; adverbs and negation occupy a preverbal position. Furthermore, the *bǎ* construction, Li and Thompson’s main piece of evidence for alleged SOV order in modern Mandarin ‘S *bǎ* O V’, has been demonstrated to involve head-complement order as well: *bǎ* as *v*-like head selects as its complement a verbal projection to its right. Note that this verbal projection can be rather complex (AspP, ApplP) and must be a maximal projection, given that it can be preceded by VP-level adverbs which surface below *bǎ* and the following NP. In other words, neither the object NP nor *bǎ* remain *in situ* (*contra* L.-Y. Audrey Li 2006; Huang, Li, and Li 2009), but raise to Spec, BaP and the higher *v*, respectively. While scholars differ with respect to the exact status of *bǎ* and the structural details of the complex verbal projection headed by *bǎ*, this analysis of *bǎ* has become the established consensus, because it finally accounts for several fundamental properties of the *bǎ* construction which had always puzzled specialists of Chinese syntax and remained

unexplained under the prepositional account of *bǎ* and the associated adjunction structure where the object of the verb was contained in the *bǎ* PP : S [_{VP} [_{PP} *ba* NP] V XP]].

2.3. *SVO forever and why linguists wouldn't see it*

The main purpose of this chapter was to invalidate once and for all Li and Thompson's (1974a: 208) still influential claim that Chinese has undergone major word order changes during the past three thousand years: OV > VO > OV. In reality, Chinese represents precisely the opposite case, i.e. a language which has shown VO order for all of its history, since the earliest attested documents from pre-Archaic Chinese (13th c. BC) up to today. Concerning the cases of surface OV order attested in pre-Archaic Chinese, not only are they limited to specific syntactic constructions (focus clefts and pronouns in negative contexts), against the background of VO as default word order, but under a closer inspection they reveal underlying head-complement order consistent with VO. Li and Thompson (1974a) as well as subsequent linguists taking up their claim failed to see this, because they never provided an analysis going beyond the surface of these alleged SOV examples.

Furthermore, a large part of the "evidence" provided by Li and Thompson (1974a) for the alleged OV character of the earliest and present stage of Chinese is based on typological considerations. In particular, Li and Thompson put forward the cross-categorical correlations observed by Greenberg (1963) where head-final NP and the use of a sentence-final particle for *yes/no* question formation are associated with SOV languages such as Japanese. Notwithstanding the explicitly statistical nature of these correlations (cf. Greenberg's own formulations: "almost always", "with overwhelmingly greater than chance frequency" etc.), Li and Thompson seem to take them as absolute statements. (For a detailed analysis of the different types of generalizations in Greenberg's work, cf. Whitman 2008; also cf. chapter eight below.) It is on this basis that they suggest that the OV properties of the head-final NP "triggered" the third step in their historical scenario, i.e. the change "back" to OV allegedly still in process today (cf. Li and Thompson 1974a: 208). Their reasoning remains confusing, though, because at the same time they acknowledge the existence of the head-final NP as a constant factor in the history of Chinese; why and when such a constant factor could have acted as a "trigger" for change is difficult to understand.

The important role typological considerations played in the analysis of a given language at that time is also visible in James H.-Y. Tai's (1973) article on "Chinese as a SOV language", curiously enough not mentioned by Li and Thompson (1974a). When trying to settle the issue of the *underlying* order for modern Mandarin from which to derive the observed surface structures SVO and SOV, James H.-Y. Tai (1973) opts for SOV, precisely because of the cross-categorical correlations observed by Greenberg (1963) in his language sample, which make Chinese pattern with SOV languages such as Japanese. Like Japanese, Chinese has a systematically head-final NP, lacks *wh*-movement (Greenberg's "identical order for questions and statement"), uses a sentence-final particle for *yes/no* questions and has postpositions.

As will become evident in the remainder of this book, typological considerations in the form of crosscategorical correlations have continued to play a decisive role in Chinese syntax and have often influenced the choice between competing analyses, though not always in the right direction.

References

- Aldridge, Edith; 2010. Clause-internal *wh* movement in archaic Chinese. *Journal of East Asian Linguistics* 19 (1): 1–36.
- Baxter, William (1992). *A Handbook of Old Chinese Chinese phonology*. Trends in Linguistics Studies and Monographs 64. Berlin: Mouton de Gruyter.
- Baxter, William and Laurent Sagart (to appear). *Old Chinese: A new reconstruction*. Oxford: Oxford University Press.
- Bender, Emily (2000). The syntax of Mandarin *ba*: Reconsidering the verbal analysis, *Journal of East Asian Linguistics* 9 (2): 105–45
- Bennett, D. C. (1980). The Li & Thompson findings on word order and word order change in Mandarin: An alternative analysis. *York Papers in Linguistics* 8: 183–191.
- Carstens, Vicki (2002). Antisymmetry and word order in serial constructions. *Language* 78 (1): 3–50.
- Chao, Yuen Ren 1968. *A grammar of spoken Chinese*. Berkeley: University of California Press.
- Chen Mengjia 陳夢家(1956). *Yinxu buci zongshu* 殷墟卜辭綜述. Beijing 北京: Kexue chubanshe 科學出版社
- Chen, Xilong (1993). On the syntax of serial verb constructions in Chinese. Ph. D. diss., University of Georgia.
- Cheng, Lisa L.-S. and Rint Sybesma (2004). Postverbal ‘can’ in Cantonese (and Hakka) and Agree. *Lingua* 114: 419–445.
- Cheng, Lisa L.-S. and Rint Sybesma (to appear). Mandarin. In *The Handbook of Contemporary Syntax*; Artemis Alexiadou et al. (eds.), Berlin/New York: Mouton De Gruyter.
- Cinque, Guglielmo (1999). *Adverbs and functional heads: a cross-linguistic perspective*. Oxford: Oxford University Press.
- Collins, Chris. 1997. Argument sharing in serial verb constructions, *Linguistic Inquiry* 28 (3): 461–497.
- Cui, Gui-bo. 1984. Zhuzi yulei de suo biao xian de ji-ge baihua yufa xianxiang [Some grammatical phenomena of the vernacular language in the *Zhuzi yulei*]. MA thesis, National Taiwan University.
- Djamouri, R. (1988). *Etude des formes syntaxiques dans les écrits oraculaires gravés sur os et écaille de tortue (Chine 14^e-11^e av. J.-C.)*. Ph. D. diss., Ecole des Hautes Etudes en Sciences Sociales, Paris.
- Djamouri, Redouane (2000). Preverbal position of the pronominal object in Archaic Chinese. Paper presented at the 9th International Conference on Chinese Linguistics, The National University of Singapore.
- Djamouri, Redouane (2001). Markers of predication in Shang bone inscriptions. In *Sinitic Grammar. Synchronic and diachronic perspectives*, Hilary Chappell (ed.), 143–171. Oxford: Oxford University Press.
- Djamouri, Redouane (2005). Chinois ancien et constructions verbales en série. [Electronic version available at: <http://crlao.ehess.fr/document.php?id=58>].
- Djamouri, Redouane and Waltraud Paul (1997). Les syntagmes prépositionnels en *yu* et *zai* en chinois archaïque. *Cahiers de Linguistique Asie Orientale* 26, 2: 221–248. [Electronic version available at: <http://crlao.ehess.fr/document.php?id=58>].
- Djamouri, Redouane and Waltraud Paul (2009). Verb-to-preposition reanalysis in Chinese. In *Historical syntax and linguistic theory*, Paola Crisma and Giuseppe Longobardi (eds.), 194–211. Oxford: Oxford University Press.
- Redouane Djamouri, Waltraud Paul, and John Whitman (2012). The constituent order of proto-Sino-Tibetan. Paper presented at the 45th International Conference on Sino-Tibetan Languages and Linguistics, Nanyang Technological University, Singapore, October 26–28, 2012.
- Redouane Djamouri, Waltraud Paul, and John Whitman (2013a). Syntactic change in Chinese and the argument - adjunct asymmetry”. In *Breaking down the barriers: Interdisciplinary studies in Chinese linguistics and beyond*; Guangshun Cao, Hilary Chappell, Redouane Djamouri, and Thekla Wiebusch (eds.), vol. 2, 577–594. [Language and Linguistics monograph series] Taipei: Academia Sinica.
- Dryer, Matthew (2003). Word order in Sino-Tibetan languages from a typological and geographical perspective. In: *The Sino-Tibetan Languages*, Thurgood, G. and LaPolla, R. (eds.), 43–56. London: Routledge.
- Ernst, Thomas 1994. Functional categories and the Chinese *Infl*. *Linguistics* 32 (2): 191–212.

- Ernst, Thomas 1995. Negation in Mandarin Chinese. *Natural Language and Linguistic Theory* 13 (4): 665–707.
- Ernst, Thomas (2002). *The syntax of adjuncts*. Cambridge: Cambridge University Press.
- Feng, Shengli 1996. Prosodically constrained syntactic changes in early Archaic Chinese. *Journal of East Asian Linguistics* 5 (4): 323–371
- Ferguson, K. Scott 1996. Shortest move and object case checking. In *Minimal ideas. Syntactic studies in the minimalist framework*; Werner Abraham, Samuel David Epstein, Höskuldur Thráinsson, and C. Jan-Wouter Zwart (eds.), 97–111. Amsterdam: Benjamins.
- Greenberg, Joseph H. 1963. Some universals of grammar with particular reference to the order of meaningful elements. In *Universals of language. Report of a conference held at Dobbs ferry, New York, April 13-15, 1961*; Joseph H. Greenberg (ed.), 73–113. Cambridge, Mass.: MIT Press.
- Guan Xiechu 1953. *Yin xu jiagu ke ci de yufa yanjiu* [Grammatical analysis of the inscriptions on tortoise-shells and bones of the Yin site]. Shanghai: Guojia kexue.
- Hale, Mark (1998). Diachronic syntax. *Syntax* 1 (1): 1–18.
- Hale, Mark (2007). *Historical linguistics: Theory and method*. Oxford: Blackwell.
- Hashimoto, Anne Yue (1971). Mandarin syntactic structures, *Unicorn* 8: 1–149.
- Holmberg, Anders (1986). *Word order and syntactic features in the Scandinavian languages and English*. Ph.D. diss., University of Stockholm.
- Holmberg, Anders (1999). Remarks on Holmberg's generalization. *Studia Linguistica* 53 (1): 1–39.
- Hsieh, Miao-Ling (2001). Form and meaning: Negation and question in Chinese. Ph.D. diss., Department of Linguistics, University of Southern California.
- Huang, C.-T. James (1982). *Logical Relations in Chinese and the theory of grammar*. Ph.D. diss., MIT, Cambridge, MA.
- Huang, C.-T. James. 1984a. Phrase structure, lexical integrity and Chinese compounds. *Journal of the Chinese Language Teachers' Association* 19 (2): 53–78.
- Huang, C.-T. James (1988). Shuo shi he you [On shi and you]. *Bulletin of the Institute of History and Philology* [Academia Sinica, Taiwan] 59, part 1: 43–64.
- Huang, C.-T. James (1991). Verb movement, (in)definiteness and the thematic hierarchy. *Proceedings of the second international symposium on Chinese languages and linguistics*, Paul J.-K. Li et al. (eds.), 481–498. Taipei : Academia Sinica.
- Huang, C.-T. James (1994). More on parametric word order and parametric theory. In *Syntactic theory and first language acquisition: cross-linguistic perspectives*. Vol. 1, *Heads, projections and learnability*, Barbara Lust et al. (eds.), 15–35. Hillsdale, N.J. : Erlbaum.
- Huang, C.-T. James (2006). The macro-history of Chinese and the theory of change. Paper presented at the *Chinese Linguistics Workshop*, University of Chicago, December 1-2, 2006.
- Huang, C.-T. James, Y.-H. Audrey Li, and Yafei Li 2009. *The syntax of Chinese*. Cambridge: Cambridge University Press.
- Huang, Shuanfan (1978). Historical change of prepositions and emergence of SOV order. *Journal of Chinese Linguistics* 6 (2): 212–242.
- LaPolla, Randy 1994. On the change to verb-medial order in Proto-Chinese: Evidence from Tibeto-Burman. In *Current Issues in Sino-Tibetan Linguistics*, Hajime Kitamura, Tasuo Nishida, and Yasuhiko Nagano (eds.), 98–104. Osaka: National Museum of Ethnology.
- Larson, Richard (1991). Some issues in verb serialization. In *Serial verbs: Grammatical, comparative and cognitive approaches*, Claire Lefebvre (ed.), 185–210. Amsterdam: Benjamins.
- Lehmann, Winfried P. (1995). Objectives of a theory of syntactic change. In *Syntax. An international handbook of contemporary research*; Joachim Jacobs, Arnim von Stechow, Wolfgang Sternefeld, and Theo Vennemann (eds.), vol. 2, 1116–1126. Berlin/New York: Walter de Gruyter.
- Li, Charles N. and Sandra A. Thompson (1974a). An explanation of word order change SVO > SOV. *Foundations of Language* 12: 201–214.
- Li, Jinxi, and Shiru Liu (1955). *Zhongguo yufa jiaocai* [Teaching materials on Chinese Grammar]. Beijing: Wushinian chubanshe.
- Li Linding (1987). *Xiàndài hànyǔ yǔfǎ de tèdiǎn* [Sentence patterns in Modern Mandarin]. Beijing: Shangwu yinshuguan.
- Li, Yen-hui Audrey 1990. *Order and constituency in Mandarin Chinese*. Dordrecht: Kluwer.

- Li, Yen-hui Audrey 2006. Chinese *ba*. In *The Blackwell companion to syntax*; Martin Everaert and Henk van Riemsdijk (eds.), vol. 1, 374–468. Oxford: Blackwell.
- Light, Timothy (1979). Word order and word order change in Mandarin Chinese. *Journal of Chinese Linguistics* 7 (2): 149–180.
- Lin, Jo-wang, and C.-C. Jane Tang (1995). Modals as verbs in Chinese; a GB perspective. *Bulletin of the Institute of History and Philology* 66 (1): 53–105.
- Lin, Tzong-Hong Jonah (2001). Light Verb Syntax and the Theory of Phrase Structure. Ph. D. diss., University of California at Irvine.
- Lü, Shuxiang et al. (eds.) 1980. *Xiàndài hànyǔ bābáicí* [Eight hundred words of Modern Mandarin]. Běijīng: Shangwu. [Revised edition used here dating from 2000].
- McCawley, James D. 1992. Justifying part-of-speech assignments in Mandarin Chinese. *Journal of Chinese Linguistics* 20 (2): 211–245.
- Mei, Kuang 1980; Is modern Chinese really a SOV language? *Cahiers de Linguistique - Asie orientale* 7: 23–45.
- Mulder, René and Rint Sybesma (1992). Chinese is a VO language. *Natural Language and Linguistic Theory* 10 (4): 439–476.
- Newmeyer, Frederick J. (1998). *Language Form and Language Function*. Cambridge, MA: MIT Press.
- Paul, Waltraud (1988). *The Syntax of Verb-Object Phrases in Chinese: Constraints and Reanalysis*. Paris: Editions Langages Croisés [Electronic version available at: <http://crlao.ehess.fr/document.php?id=177>].
- Paul, W. 2002. Proxy categories in phrase structure theory and the Chinese VP. *Cahiers de Linguistique Asie orientale* 31 (2): 137–174. [Electronic version available at: <http://crlao.ehess.fr/document.php?id=177>].
- Paul, W. & Whitman, J. (2008). ‘*Shi...de* focus clefts in Mandarin Chinese’. *The Linguistic Review* 25 (3/4): 413–451. [Electronic version available at: <http://crlao.ehess.fr/document.php?id=177>].
- Paul, Waltraud and John Whitman (2010). Applicatives structure and Mandarin ditransitives. In *Argument Structure and Syntactic Relations from a Cross-Linguistic Perspective*, Maia Duguine, Susana Huidobro, and Nerea Madariaga (eds.), 261–282. Amsterdam: Benjamins. [Electronic version available at: <http://crlao.ehess.fr/document.php?id=177>].
- Peyraube, Alain (1985). Les structures en *ba* en chinois médiéval et moderne. *Cahiers de Linguistique - Asie Orientale* 14 (2): 193–213.
- Peyraube, Alain. 1988. *Syntaxe diachronique du chinois. Evolution des constructions datives du 14^e siècle av. J.-C. au 18^e siècle*. Paris: Collège de France, Institut des Hautes études chinoises.
- Peyraube, Alain 1996. Recent issues in Chinese historical syntax. In *New horizons in Chinese linguistics*; Huang, C.-T. James, and Y.-H. Audrey Li (eds.), 161–213.
- Ross, Claudia. (1991). Coverbs and category distinctions in Mandarin Chinese. *Journal of Chinese Linguistics* 19 (1): 79–115.
- Sagart, L. (1999). *The Roots of Old Chinese*. [Current Issues in Linguistic Theory, 184]. Amsterdam: John Benjamins.
- Shen, Pei (1992). *Yinxu jiagu buci yuxu yanjiu*. Taipei : Wenjin.
- Soh, Hooi Ling (1998). Object scrambling in Chinese. Ph.D. diss., Massachusetts Institute of Technology, Cambridge.
- Sun, Chao-Fen, and Talmy Givón 1985. On the so-called SOV word order in Mandarin Chinese: A quantified text study and its implications. *Language* 61 (2): 329–351.
- Sybesma, Rint 1992. *Causatives and accomplishments: The case of Chinese ba*. Holland Institute of General Linguistics.
- Sybesma, Rint 1999. *The Mandarin VP*. Dordrecht: Kluwer Academic Publishers.
- Sybesma, Rint 2007. Whether we Tense-agree overtly or not. *Linguistic Inquiry* 38 (3): 580–587.
- Tai, James H.-Y. 1973. Chinese as a SOV language. In *Papers from the Ninth Regional Meeting of the Chicago Linguistic Society*, Corum, C. et al. (eds.), 659–671. Chicago, Ill.: Chicago Linguistic Society.
- Tang, C.-C. Jane 1990. Chinese phrase structure and the extended X-bar theory. Ph.D. diss., Cornell University.
- Tang, Ting-chi (2000). Hanyu de *xianding ziju* yu *fei-xianding ziju* [Finite and non-finite clauses in Chinese]. *Language and Linguistics* 1 (1): 191–214.

- Tsai Mei-chih 1995. La modification adverbiale et l'ordre des mots en chinois. Ph.D. diss., University Paris 7.
- Wang, Li. (1958). *Hanyu shi gao* (zhong) [Outline of the history of Chinese, vol. 2]. Beijing: Kexue chubanshe. (reprinted in: Wang, Li (1988). *Wang Li wenji* [Collected works of Wang Li], vol. 9.
- Whitman, John (2000). Relabelling. In *Diachronic syntax. Models and mechanisms*; Susan Pintzuk, George Tsoulas, and Anthony Warner (eds.), 220–238. Oxford: Oxford University Press.
- Whitman, John (2008). The classification of constituent order generalizations and diachronic explanation. In *Linguistic universals and language change*; Jeff Good (ed.), 233–252. Oxford: Oxford University Press.
- Whitman, John and Waltraud Paul (2005). Reanalysis and conservancy of structure in Chinese. In *Grammaticalization and Parametric change*, Montse Batllori, Maria-Lluïsa Hernanz, Carme Picallo, and Francesc Roca (eds.), 82–94. Oxford: Oxford University Press. [Electronic version available at: <http://crlao.ehess.fr/document.php?id=177>].
- Wu, Meng (1982). *Ba zi yongfa er li* [Two illustrations for the usage of *ba*], *Zhongguo yuwen* 1982, 6: 434.
- Zhu, Minche (1957). Lun chuqi chuzhi shi [On the early disposal form]. *Yuyanxue luncong* 1: 17–33.
- Zou, Ke (1993). The syntax of the Chinese *ba* construction. *Linguistics* 31 (4): 715–736.

3. Propositions for prepositions: What they are - adpositions - and what they are not - hybrids [June 2013]

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3. Propositions for prepositions:

What they are – adpositions – and what they are not – V/P hybrids*

General linguists might be surprised by the fact that even with respect to fundamental issues such as the inventory of lexical categories there is still no consensus in Chinese linguistics. Prepositions are a case at hand; while Djamouri and Paul (1997, 2009), for example, demonstrate the necessity to distinguish between prepositions and verbs from the very first pre-Archais documents on (13th c. - 11th c. BC) up to today, Huang, Li and Li (2009: 29-30) assign them a “hybrid” or “categorially dual” status, reminiscent of Li and Thompson’s (1974b) term *coverb* coined in order to grasp the allegedly “still” verbal nature of Chinese prepositions.¹ Cheng and Sybesma (to appear) go a step further and emit doubts as to the very existence of that category in Chinese and leave the issue open.

This situation has its origin in the existence of numerous pairs of (historically related) homophonous prepositions and verbs: preposition *zài* ‘in, at’ and verb *zài* ‘be, exist’; preposition *gěi* ‘to, for; on behalf of’ and verb *gěi* ‘give’; preposition *duì* ‘towards, concerning’ and verb *duì* ‘face, aim at’; preposition *gēn* ‘with’ and verb *gēn* ‘follow’, preposition *dào* ‘to, until’ and verb *dào* ‘arrive’ etc.² This on its own is, however, not the main reason, the more so as homophony between members of different lexical categories are observed in other languages as well (as in the case of English present participles homophonous with prepositions such as *concerning*, *regarding*; cf. McCawley 1992: 224), without leading, though, to the radical position observed in Chinese linguistics where the homophony serves as the basis for questioning the distinctness of the categories. It is rather our preconceived ideas about the impoverished array of lexical categories typical of so-called isolating languages (in comparison with Indo-European languages) that allow us rather easily to conceive of Chinese as a language without the category preposition or with a categorially dual, hybrid variant thereof (referred to as the *one and a half category scenario* in the remainder of this chapter). Note that the necessity of applying a series of test criteria to distinguish between prepositions and verbs instead of being able to rely on just one crucial test has at first sight lent support to their categorial non-distinctness in Chinese.

The aim of the present chapter is to provide substantial evidence in favour of the in fact rather trivial claim that prepositions are a category distinct from verbs, in Chinese as well. In order to have a sound data basis, section 3.1 provides a list of about thirty prepositions, with and without a “corresponding” homophonous verb. Section 3.2 studies the distribution of PPs and shows how confining the question ‘preposition vs. verb’ to the preverbal adjunct position to the right of the subject has blurred their categorial distinctness. Section 3.3 demonstrates in detail that prepositions cannot function as predicates, neither as primary nor as secondary ones. Claims to the contrary turn out to be due the confusion of the verb with the homophonous preposition. Section 3.4 confirms the validity for Chinese of the ban on preposition stranding. It introduces additional diagnostics, though, because the *Adjunct Island Constraint* makes it impossible to use the impossibility of extracting the complement of a PP in preverbal adjunct position as unequivocal proof for the general ban on preposition stranding. Section 3.5 gives an interim summary of the results obtained for modern Mandarin before turning to the diachronic aspect of prepositions in section 3.6. This section addresses the “verbal origin” of prepositions, which is often vaguely invoked in the *one and a half category scenario* as “reason” for their “still” verbal properties, without it ever being spelt at all out how this remote historical information is supposed to be present in the grammar of a native speaker today. It first discusses the prepositions *yú* ‘at, to’, *zì* ‘from’ and *zài* ‘in’ present in the earliest texts (13th c. BC) and for which a verbal origin – at least in attested material – cannot be claimed. In the second part, a concrete case of V-to-P reanalysis is examined and it is shown how the constraints generally observed for reanalysis apply here as well. Last, but not least, section 3.7 summarizes the main conclusions and

* This chapter as well owes a lot to joint work and extensive discussion with Redouane Djamouri and John Whitman.

¹ “If prepositions are [-N, -V], then the members of the class (42c) [= *gěi*, *zài*, *xiàng*, cf. (1b); WP] cannot be treated simply as prepositions because they can also be used as verbs, which are [+V] by definition. We believe that this class has multiple statuses. As V, the words in (42c) are [-N, +V]; and as P, they are [-N, -V].” (Huang, Li and Li 2009: 30).

² Note that this homophony between verbs and prepositions includes the tone, as can be seen from the identical Pinyin transliterations.

evaluates their consequences for claims made by general theories of change with respect to deverbal prepositions as a case of lexical reanalysis (cf. Longobardi 2001, Roberts and Roussou 2003)

3.1. *Taking stock: Coverbs, unicorns and other mythological creatures in Chinese linguistics*

Given the controversial status of the very existence of prepositions in Chinese, it is necessary to first get the situation straight datewise. A fairly comprehensive list of prepositions in spoken Mandarin is provided in (1a) and (1b), alongside the homophonous verb, if it exists.³ Although this might seem a rather trivial task, drawing up this list turns out to be a healthy exercise, insofar as it provides us with more than thirty prepositions, among which eleven “exclusive” prepositions, i.e. prepositions without a homophonous verb. This certainly is too important a number to be simply dismissed and thereby straightforwardly challenges Cheng and Sybesma’s (to appear) claim about “preposition-only” items to be a *quantité négligeable* too insignificant to be taken serious as evidence for the existence of the category preposition.⁴ Note in this context that even if one somehow succeeded in subsuming prepositions under verbs, this would not allow to “economize” on the category adposition in Chinese, given that Chinese also has postpositions (cf. chapter four below).

List of prepositions:

(1a) Exclusive prepositions: (= 11)⁵

- *chúle* ‘except for, besides, in addition’
- *cóng* ‘from, by way of’
- *duìyú* ‘with regard to, of’
- *guānyú* ‘about, concerning, with regard to’
- *hé* ‘(together) with’⁶
- *wàng* ‘to, towards’
- *wèi* ‘for (the sake of), on behalf of’
- *wèile* ‘because of, for (the sake of), on behalf of; in order to’
- *yīnwèi* ‘because of, on account of; because’
- *zhìyú* ‘as for, as to’
- *zìcóng* ‘since’

³ This inventory is established on the basis of lists found in Hagège (1975), Chao Yuen Ren (1968: 754-769) and Li and Thompson (1981: 368-369) (even though the latter call them *coverbs*). It does not include clearly dialectal items such as *dǎ* ‘from’ (the Northern dialect equivalent of standard Mandarin *cóng* ‘from’) nor items belonging to a more formal style or the written register such as *zì* ‘from’, *yīkào*, *yīzhào* ‘according to’, *yú* ‘in, at, to’ (corresponding to *zài* ‘in, at’ and *xiàng* ‘to, towards’ in spoken standard Mandarin) etc. Note that if the latter were counted as well, the number of prepositions, especially that of exclusive prepositions, would increase substantially.

⁴ “The category P is also not unproblematic. First, it is not clear how many members the category has, *if it exists at all*. Although there are a small number of elements that only function prepositionally, most counterparts of prepositions in Indo-European languages can probably be considered as verbs that can function as the main or as a subordinate predicate in a sentence.” (Cheng and Sybesma to appear, §3.1.1; emphasis mine) Note, though, that Cheng and Sybesma discuss this thorny issue on half a page only.

⁵ As reflected in the translation, some of these preposition can also take a clausal complement, such as *wèile* ‘in order to; for...to’ and *yīnwèi* ‘because’. For further discussion, cf. Lu Peng (2008).

⁶ There is also a coordinating conjunction *hé* ‘and’. When coordinating NPs (cf. [i]), it can be easily distinguished from the preposition *hé* ‘with’ (cf. [ii] and [iii]), because unlike the latter it cannot be separated from its second conjunct by adverbs, auxiliaries or negation:

- (i) $[_{NP} \text{ Wǒ } (*yě / *bù) \text{ hé } \text{ tā}] \text{ yě / bù } \text{ shì } \text{ měiguó rén}$
1SG also/ NEGand 3SG also/ NEGbe American
‘Me and him also are Americans / are not Americans.’
- (ii) $Wǒ \text{ yě } [_{VP} \text{ hé } \text{ tā}] \text{ jiǎng -le } \text{ yì } \text{ jiǎng}$
1SG also with 3SG talk -PERF1 talk
‘I also talked to him a bit.’
- (iii) $Tā \text{ hěn } \text{ yuànyì } [_{VP} \text{ hé } \text{ dàjiā }] \text{ jiǎng } \text{ yì } \text{ jiǎng}$
3SG very wish with everybody talk 1 talk
‘He very much wants to talk a bit to everybody.’

Note that all prepositions of the form ‘X-yú’ (including those belonging to the written register) are exclusive prepositions. This is not surprising, because the preposition *yú* ‘at, to’ indicating spatial, temporal and abstract location and still used in the written register today is attested since the earliest documents dating from the 13th c. BC. (cf. below, section 3.6).

(1b) Prepositions having a homophonous verbal “counterpart” (= 21)

- Prep <i>àn</i> ‘according to, in the light of’	Verb <i>àn</i> ‘conform to, comply with’
- Prep <i>ànzào</i> ‘according to; on the basis of’	Verb <i>ànzào</i> ‘conform to, comply with’
- Prep <i>bǐ</i> ‘in comparison with’	Verb <i>bǐ</i> ‘compare’ ⁷
- Prep <i>cháo</i> ‘facing, towards’	Verb <i>cháo</i> ‘face’
- Prep <i>dāng(zhe)</i> ‘in front of, at’	Verb <i>dāng</i> ‘serve as, consider as; think, believe’
- Prep <i>dào</i> ‘until, to’	Verb <i>dào</i> ‘arrive’
- Prep <i>duì</i> ‘toward’	Verb <i>duì</i> ‘be opposite’
- Prep <i>gǎn</i> ‘by the time of’	Verb <i>gǎn</i> ‘drive (away), hurry, catch up with’
- Prep <i>gěi</i> ‘to, for’	Verb <i>gěi</i> ‘give’
- Prep <i>gēn</i> ‘with, from’ ⁸	Verb <i>gēn</i> ‘follow’
- Prep <i>gēnjù</i> ‘on the basis of, in line with’	Verb <i>gēnjù</i> ‘follow, base oneself on’
- Prep <i>lí</i> ‘from, away’	Verb <i>lí</i> ‘leave, part from’
- Prep <i>lǐ</i> ‘without, lacking’	
- Prep <i>tì</i> ‘for, on behalf of, instead of’	Verb: <i>tì</i> ‘replace, substitute for’
- Prep <i>tóng</i> ‘(together) with’	Verb <i>tóng</i> ‘to be the same’
- Prep <i>wǎng</i> ‘in the direction of, toward’	Verb ‘go (in the direction of)’ ⁹
- Prep <i>xiàng</i> ‘to, towards; from’	Verb <i>xiàng</i> ‘face, turn towards’ ¹⁰

⁷ Examples illustrating the preposition *bǐ* are given in (i) and (ii):

- (i) *Tā shuō de [AP [PP bǐ nǐ] dàshēng*
3SG talk DE compared.with 2SG loud
‘He speaks louder than you.’
- (ii) *Báitiān bǐ wǎnshàng qìwēn gāo wǔ dù*
daytime compared.with evening temperature high 5 -degree
‘During the daytime, the temperature is five degrees higher than in the evening.’

⁸ There is also a coordinating conjunction *gēn* ‘and’. As already illustrated above for the pair ‘preposition *hé*’ - ‘conjunction *hé*’, the position of adverbs allows us to distinguish between the two:

- (i) *[NP Xiǎo Lǐ (*dōu) gēn wǒ] dōu shì shānxī-rén* (Lü Shuxiang et al. 1980: 231)
Xiao Li all and 1SG all be Shanxi-person
‘Xiao Li and I are both from Shanxi.’

The adverb *dōu* ‘all’ cannot intervene between the two NP conjuncts; furthermore, since *dōu* requires a plural NP to quantify over, the subject clearly is a coordinated NP.

(ii) illustrates the preposition *gēn* ‘with’ heading an adjunct PP modifying the embedded verb:

- (ii) *Nǐ qù [[PP gēn Lǎo Wáng] yánjiū yī-xià]* (Lü Shuxiang et al. 1980: 230)
SG go with Lao Wang examine 1-time
‘You go check it out with Lao Wang.’

⁹ The verb *wǎng* is largely confined to fixed expressions such as (i) and (ii) and to the V2 position in compounds:

- (i) *Rén lái rén wǎng*
person come person go
‘People come and go’
- (ii) *Yī-ge wǎng dōng, yī-ge wǎng xī*
1 -CL go east 1 -CL go west
‘One goes to the east, and one goes to the west.’
- (iii) *Chēduì [V^o kāi -wǎng] Lǎsà* (Lü Shuxiang et al. 1980 : 547)
motorcade leave-go Lhasa
‘The motorcade left for Lhasa.’

Note that the preposition *wǎng* ‘toward’ (fourth tone), homograph with the verb *wǎng* ‘go’ (third tone) is unacceptable here (**kāi-wǎng*). For further discussion, cf. Chao Yuen Ren (1968: 758, footnote 48).

¹⁰ The verb *xiàng* ‘face, turn towards’ - like the verb *wǎng* ‘go (in the direction of)’ - mostly occurs as second verb in compounds such as *fēi-xiàng dōngnán* ‘fly to the south east’.

- Prep <i>yán(zhe)</i> ‘along, following’	Verb: <i>yán</i> ‘trim (with a ribbon etc.)’
- Prep <i>yóu</i> ‘by, through, up to, from’	Verb <i>yóu</i> ‘let do as one pleases’
- Prep <i>zài</i> ‘in, at’	Verb <i>zài</i> ‘be at’
- Prep <i>zhào</i> ‘in the direction of’	Verb <i>zhào</i> ‘reflect; look after’

Again, this list is not exhaustive insofar as it does not include unclear cases (e.g. *chèn* ‘taking advantage of; while’) nor prepositions used in a formal or written register only; accordingly, the total number of prepositions is clearly higher.¹¹

Before discussing in detail the arguments in favour of prepositions as a category distinct from verbs, I would like to briefly comment on some features emerging after a quick perusal of the lists in (1a) and (1b). The first thing to observe is that there are at least eleven exclusive prepositions and twice as many prepositions with a homophonous verbal “counterpart”. Taken together, they represent high enough a number to be taken seriously and therefore cannot be simply dismissed. Second, the meaning differences observed for a given pair of homophonous preposition and verb can be important enough to make it difficult to subsume them under one item, as e.g. in the case of *dāng* and *yán* (cf. [1b]). Note that talking about “meaning differences” in fact amounts to stating differences in selectional restrictions, concerning both the syntactic category (c-selection) as well as the semantic properties of the category (s-selection) in question, as amply illustrated in the examples provided in the remainder of this chapter. Third, cases like *hé* ‘with’ (cf. [1a]) and *gēn* ‘with’ (cf. [1b]) also show that prepositions in turn can be homophonous with e.g. coordinating conjunctions ‘and’, making it necessary to come to terms with homophonous items instantiating different categories in any case, not only with respect to homophonous verbs and prepositions. Fourth, some prepositions (e.g. *chúle* ‘except, besides’, *wèile* ‘for the sake of’, *yánzhe* ‘along’, *dāngzhe* ‘in front of’) seem to feature the aspect suffixes *-le* and *-zhe*, which at first sight contradicts their being categorially distinct from verbs.

Concerning this last point, most scholars agree that *-le* and *-zhe* here are integral part of the preposition itself [_{prep} X-*le/zhe*], hence not visible for syntax: accordingly, *-le* and *-zhe* do not convey perfective or durative aspect, respectively.

First, there is no choice between the alleged aspectual suffix at hand and the other suffixes, i.e. we do not observe an alternation between *-zhe*, *-le*, and *-guo* (experiential aspect) as we do for verbs. Second, either there is no counterpart without that suffix, as in the case of *chúle* ‘except’ (#*chú*) or we obtain another preposition with a different meaning, as in the case of *lile* ‘without’ vs. *lí* ‘from’ and *wèile* vs. *wèi*, where besides the meanings conveyed by *wèi*, *wèile* has the additional meaning ‘because of’. Third, it is the “suffixed” form which is the default form in contrast to the non-suffixed form which is subject to constraints and accordingly has a more limited distribution, as in the case of *yán(zhe)*. While *yán* is acceptable in combination with certain place nouns only, *yánzhe* can select all kinds of NPs, concrete and abstract (cf. a.o. Chao Yuen Ren 1968: 763, Lü Shuxiang et al. 1980: 590).

- (2) *Wǒ xiǎng [PP yán(zhe) qiánggēn] zhòng yī-pái yángshù* (Lü Shuxiang et al. 1980: 590)
 1SG think along wall plant 1-row willow
 ‘I intend to plant a row of willows along the wall.’

- (3) *Wǒ [PP yán*(zhe) [tā dāngnián liúxià de zújī]] zǒufǎng-le sānshí-ge shì xiàn*
 1SG along 3SG that.time leave SUB track visit -PERF 30 -CL town county
 ‘Following the itinerary made by her back then, I have visited thirty towns and counties.’

The case of *-zhe* in *yánzhe* ‘along’ and the like is on a par with *-ing* in the present participle forms of verbs reanalysed as prepositions, e.g. *concerning*, *regarding*. As pointed out by McCawley (1992: 224), the prepositions *concerning* and *regarding* (paraphrasable as *about*) allow pied piping (cf. [4a] and [5a]), in contrast to the verbs *concerning* and *regarding* (cf. [4b] and [5b]):

¹¹ Chao Yuen Ren (1968: 749-767) in his section 8.2.1 on prepositions comes up with a total of fifty-seven, including, though, prepositions belonging to the written or formal style, some conjunctions and items such as *bǎ*, which in fact cannot be analysed as prepositions (cf. chapter 2.2.2.2 above).

- (4) a. *the persons* [_{PP} *concerning whom*] *he made inquiries*
 b. **the teachers* [_V *concerning*] *whom John's problems have been* *t_V recently*
- (5) a. *a person* [_{PP} *regarding whom*] *I have bad feelings*
 b. **a person* [_{VP} *regarding whom as an idiot*] *more and more people have been* *t_{VP}*
 (cf. McCawley 1992: 224, example [21])

Clearly, the sequence *-ing* in the prepositions *concerning* and *regarding* is no longer visible in syntax as an inflectional element combining with verbs. The same observation applies to *-zhe* and *-le* in Chinese prepositions; accordingly, *-zhe* and *-le* here are not indications of the “still” verbal nature of prepositions in Chinese, but simply show that these prepositions have been reanalysed from suffixed verb forms. In other words, with respect to the synchronic grammar, prepositions with an incorporated suffix such as *yánzhe* ‘along’ and *wèile* ‘because of’ and “bare” prepositions such as *cóng* ‘from’, *gēn* ‘with’ behave exactly alike, i.e. the former as the latter lack an internal structure.

3.2. Prepositional Phrases and the preverbal adjunct position

Most studies discussing the question whether prepositions are a sub-class of verbs or not concentrate on PPs in the preverbal position to the right of the subject. As illustrated below, this is the default position for all kinds of phrases XP having an adverbial function i.e., adverbs, adjunct NPs (6), adjunct PPs (7) and PostPs (8), and clauses with a null subject controlled by, hence coreferential with, the matrix subject (cf. [9] and [10]):

- (6) *Tā* [_{NP} *xīngqītiān*] [_{VP} [_{adverb} *zǐxìxìde*] [_{VP} *zhěnglǐfángjiān*]]
 3SG Sunday carefully tidy room
 ‘He carefully tidies up his room on Sundays.’
- (7) *Wǒ* [_{VP} [_{PP} *cóng nóngcūn*] [_{VP} *huílái*]]
 1SG from village return
 ‘I return from the village.’
- (8) *Wǒ* [_{VP} [_{PostP} *chúxī yǐqián*] [_{VP} *yào huí jiā*]]
 1SG New.Year’s eve before need return home
 ‘I need to go home before New Year’s eve.’
- (9) *Tā* [_{VP} [_{adjunct clause} *pro chuī -zhe kǒushào*] [_{VP} *xià lóutī*]]
 3SG blow-DUR whistle descend stair
 ‘He walked down the stairs whistling.’ (Chen Chung-yu 1986: 2, (10a))
- (10) *Tā* [_{VP} [_{adjunct clause} *pro dǎ diànhuà*] *jiào chē*]]
 3SG strike phone call car
 ‘He called a cab using the phone.’

Furthermore, given that negation and adverbs must occur at the left edge of the *vP* (inclusive of adjoined material), they precede adjunct PPs. The resulting sequence ‘Neg/Adv PP VP’ is often adduced as evidence for an alleged compatibility of PPs with negation and adverbs and hence for their allegedly hybrid status due to a “still” partly verbal nature:

- (11) *Tā hái méiyǒu* [_{VP} [_{PP} *cóng nóngcūn*] [_{VP} *huílái*]]
 3SG still NEG from village return
 ‘He has not returned from the village yet.’

- (12) *Tā gāngcái* [_{vP} [_{PP} *cóng zhèr*] [_{vP} [_{PP} *wàng nán*] *zǒu-le*]
 3SG just.now from here toward south go -PERF
 ‘From here, she went towards the south a moment ago.’
- (13) *Wǒ* [_{vP} [_{adverb} *yǐjīng*] [_{vP} [_{PP} *gěi Měilì*] [_{vP} *dǎ -le bàn-ge xiǎoshí de diànhuà*]]]
 1SG already to Mary strike-PERF half-CL hour SUB phone
 ‘I have already talked to Mary on the phone for half an hour.’
- (14) *Wǒ hái méi* [_{vP} [_{PP} *gěi Měilì*] [_{vP} *jì yóujiàn*]]
 1SG still NEG to Mary send E-mail
 ‘I still haven’t sent an E-mail to Mary.’
- (15) *Tā bù* [_{vP} [_{PP} *zài shànghǎi*] [_{vP} *xué fǎwén*]]
 3SG NEG in Shanghai study French
 ‘He does not study French in Shanghai.’

However, as soon as the PP occurs elsewhere than in the preverbal adjunct position, e.g. in the sentence-initial topic position (cf. [16] - [19]) or as a modifier embedded in a DP (cf. [20]), the incompatibility of PPs with adverbs and negation becomes visible:

- (16) *(*yǐjīng)* [_{PP} *Gěi Měilì*], *wǒ* [_{vP} [_{adverb} *yǐjīng*] [_{vP} *dǎ -le bàn-ge xiǎoshí de diànhuà*]]
 already to Mary 1SG already strike-PERF half-CL hour SUB phone
 ‘To Mary, I have already talked on the phone for half an hour.’
- (17) *(*méi)* [_{PP} *Gěi Měilì*] *wǒ hái méi* [_{vP} [_{vP} *jì yóujiàn*]], [_{PP} *gěi Xiǎoli*] *wǒ yǐjīng jì -le*
 NEG to Mary 1SG still NEG send E-mail to Xiaoli 1SG already send-PERF
 ‘To Mary, I still haven’t sent an E-mail, to Xiaoli, I have already sent one.’
- (18) *(*bù)* [_{PP} *zài Shànghǎi*] *tā bù* [_{vP} *xué fǎwén*]], *tā xué hànyǔ*
 NEG in Shanghai 3SG NEG study French 3SG study Chinese
 ‘He does not study French in Shanghai, [but] he studies Chinese [there].’
- (19) *(*gāngcái)* [_{PP} *cóng zhèr*], *tā gāngcái* [_{vP} [_{PP} *wàng nán*] *zǒu*]
 just.now from here 3SG just.now toward south go
 ‘From here, she went south a moment ago.’
- (20) *Tā mǎi-le jǐ běn* [_{DP} [_{PP} *(*bù) guānyú Chomsky*] *de shū*]
 3SG buy-PERF several CL NEG about Chomsky SUB book
 ‘He bought several books (not) about Chomsky.’

Consequently, prepositions cannot be negated and modified by adverbs; if they appear to do so, it is by virtue of being an adjunct in an extended verbal projection.

In fact, it is well-known that in the configuration ‘Neg (Aux) [_{vP} PP [_{vP} V O]]’ negation has the entire verbal projection vP in its scope; accordingly, it can either negate the entire vP (21d) or subparts of it, i.e. the PP (21a), the verb (21b) or the object NP (21c).

- (21) *Tā bù* [_{vP} [_{PP} *zài Shànghǎi*] [_{vP} *xué fǎwén*]],
 3SG NEG in Shanghai study French
 ‘He does not study French in Shanghai,
- a. *tā zài Běijīng xué*
 3SG in Beijing study
 he studies it in Beijing.’

- b. *tā zài Shànghǎi jiāo fǎwén*
3SG in Shanghai teach French
he teaches French in Shanghai.'
- c. *tā zài Shànghǎi xué hànyǔ*
3SG in Shanghai study Chinese
he studies Chinese in Shanghai.'
- d. *tā zài Běijīng jiāo hànyǔ*
3SG in Beijing teach Chinese
he teaches Chinese in Beijing.'
- (22) *Wǒ cónglái bù hé Měilì tāolùn yǔyánxué wèntí*
1SG ever NEG with Mary discuss linguistics question
'I never discuss linguistics with Mary,
- a. *zhǐ hé Āmēi tāolùn*
only with Amei discuss
I only discuss linguistics with Amei.'
- b. *zhǐ hé tā tāolùn zhèngzhì wèntí*
only with 3SG discuss politics question
'I only discuss politics with her.'
- c. *qíshí wǒ bù xǐhuān gēn biérén tāolùn wèntí*
in.fact 1SG NEG like with others discuss question
in fact, I don't like discussing with other people.'
- (23) *Nǐ bù néng [vP [PP cóng zhèi-ge yóujú] jì bāoguǒ],*
2SG NEG can from this-CL post.office send parcel
'You cannot send parcels from this post office,
- a. *zhǐ néng cóng Louvre de yóujú jì*
only can from Louvre SUB post.office send
you can only send them from the Louvre post office.'
- b. *zhǐ néng (cóng zhèlǐ) jì xìn¹²*
only can from here send letter
you can only send letters from here.'
- c. *zhǐ néng (zài zhèlǐ) mǎi yóupiào*
only can in here buy stamp
you can only buy stamps here.'

Note that the dominant interpretation is to have negation bear on the adjunct PP only, rather than negating (components of) the event itself. This is plausible insofar as in the default case the fact of indicating the circumstances of an event implies its taking place. However, the other interpretations mentioned above are likewise present, as witnessed by the different options to continue the sentence which confirm the construal of negation with the entire vP. (Whether all of the theoretically possible

¹² Some of the native speakers consulted prefer the following sentence in order to render the meaning of (23b):

(i) *Nǐ cóng zhèi-ge yóujú bù néng jì bāoguǒ, zhǐ néng jì xìn*
2SG from this-CL post.office NEG can send parcel only can send letter
'From this post office, you cannot send parcels, only letters.'

readings exist also depends on the meaning of the sentence at hand.) Again, these observations hold irrespectively of whether a homophouns verb exists for the preposition or not.

Last, but not least, it is not feasible to reduce the differences between verb and preposition to distributional differences in terms of main verb position vs. verb in an adjunct clause, a point of view often encountered in the literature and also adopted by Cheng and Sybesma (to appear). For a preposition can be shown to behave differently from a verb in the very same sentence-internal adjunct position. This fact is obscured most of the time, because the diagnostic context used here where negation is confined to the adjunct clause is not very common.¹³

Let us first look at (24) and (25). Since the auxiliaries *xiǎng* as well as *huì* (cf. [26] and [27]) cannot select a negated verbal projection as complement, (24) and (25) are only acceptable because the negation can be construed with the verb in the adjunct clause, the other option, i.e. construal of negation with the main verb *qīngchàng* ‘sing’ is excluded by the fact that the auxiliary *xiǎng* ‘want’ requires a positive complement:

(24) *Xiànzài wǒ xiǎng* [_{VP} [_{adj.cl.} *pro bù tīng bànzòu*]] *qīngchàng zhè-shǒu gē*
 now 1SG want NEG listen accompanying.music sing this-CL song
 ‘Now I want to sing this song without listening to the accompanying.music.’

(25) *Wǒ xiǎng* [_{VP} [_{adj.cl.} *pro bù bì -zhe yǎnjīng*]] *shuì jiào*
 1SG want NEG close-DUR eye sleep sleep
 ‘I want to sleep without closing my eyes.’

The construal of negation with a PP, however, is excluded, whence the unacceptability of (26b) and (27b).

(26) a. *Tā bù* [_{AuxP} *huì* [_{PP} *wèi Měilì*]] *dānxīn*, *tā huì wèi Amēi dānxīn*
 3SGNEG will for Mary worry 3SG will for Amei worry
 ‘He won’t get worried about Mary, [but] he will get worried about Amei.’

b. **Tā huì* [_{PP} *bù wèi Měilì*] *dānxīn*, *tā huì wèi Amēi dānxīn*
 3SG will NEG for Mary worry 3SG will for Amei worry
 (‘He will get worried about Amei, but not about Mary.’)

(27) a. *Tā míngtiān bù* [_{AuxP} *huì* [_{PP} *xiàng wǒ*]] *qiú hūn*
 3SG tomorrow NEG will to 1SG request marriage
 ‘He will not propose to me tomorrow.’

b. **Tā míngtiān huì* [_{PP} *bù xiàng wǒ*] *qiú hūn*
 3SG tomorrow will NEG to 1SG request marriage
 (‘He will propose tomorrow, but not to me.’)

As in the case of *xiǎng* ‘want’, it is the incompatibility of *huì* with a negated complement that excludes the construal of negation with the complement vP in (26b) and (27b): ‘S *huì* [Neg [_{VP} PP [_{VP} V O]]]’.¹⁴ The parsing of negation as forming a constituent with the adjunct only, i.e. the PP, also fails because of the non-predicational nature of PPs (cf. section 3.3 below). As a result, the sentences are rejected.

¹³ The observation that the negation may have scope over the verb in the adjunct clause only is due to Teng Shou-hsin (1974: 136). However, his example (i) was not judged fully acceptable by the native speakers consulted, nor can the syntactic construal of negation with the entire verbal projection: *bù* [_{VP} [_{pro ná-zhe}] *chī*] be excluded here:

(i) *Bīngbāng, tā bù ná -zhe chī* Teng Shou-hsin (1974:136; [32a-b])
 lollipop 3SG NEG hold-DUR eat
 ‘He’s eating the lollipop without holding it.’

Victor Junnan Pan deserves special thanks here for his help in construing examples (24) to (27).

¹⁴ Except in cases of double negation: *bù huì* [_{bù VP}] resulting in a high degree of assertiveness (cf. Lü Shuxiang et al. 1980: 297).

The incompatibility of prepositions with adverbs and negation is the first piece of evidence in favour of the existence of the category preposition, irrespectively of whether there exists a homophonous verb or not. Furthermore, this incompatibility holds for all positions examined so far, but is just more easily to detect for a PP in the sentence-initial topic position or inside a complex DP, i.e. outside the sentence-internal adjunct position.

3.3. Prepositional Phrases cannot function as predicates

The preceding discussion has demonstrated the incompatibility of PPs with negation and adverbs, thus showing them to be different from verbs. This incompatibility is a consequence of the fact that prepositions cannot function as predicates, neither as primary (cf. [28a] and [29a]) nor as secondary (cf. [28b] and [29b]). (For evidence that the constituents following the object NP in [28b]) and [29b] involve a predication on that object NP, not an NP-internal modifier exceptionally following the head noun in an otherwise head-final NP, cf. C.-T. James Huang 1984, 1987.)

- (28) a. **Tā* [_{PP} *cóng Běijīng*]
3SG from Beijing
(Intended meaning: ‘He is from Beijing.’)
- b. *Tā yǒu jǐ -ge xuéshēng* {[*e*] *huì shuō zhōngwén*] /*[_{PP} *cóng Běijīng*]}
3SG have several -CL student can speak Chinese / from Beijing
‘He has several students who can speak Chinese / several students from Beijing.’
- c. *Tā* [_{VP} [_{PP} *cóng Běijīng*] [_{VP} *huílái-le*]]
3SG from Beijing return-PERF
‘He has returned from Beijing.’
- (29) a. **Zhèi-běn shū* [_{PP} *guānyú Chomsky*]
this -CL book about Chomsky
(intended meaning: ‘This book is about Chomsky.’)
- b. *Tā yǒu yī-běn shū* {*[_{PP} *guānyú Chomsky*]/ [_{VP} *tándào Chomsky*]}
3SG have 1-CL book about Chomsky / talk.about Chomsky
‘He has a book about Chomsky/talking about Chomsky.’

Furthermore, as in English, a PP cannot be selected as complement by an auxiliary in Chinese, either:

- (30) **Zhèi-běn shū* [_{AuxP} *huì* [_{PP} *guānyú Chomsky*]
this -CL book will about Chomsky
(Intended reading: ‘The book will *(be) about Chomsky.’)
- (31) **Wǒmen míngtiān* [_{AuxP} *yào* [_{PP} *wàng Shànghǎi*]]¹⁵
1PL tomorrow want towards Shanghai
(Intended reading: ‘We want *(to go) towards Shanghai tomorrow.’)

The non-predicational status of prepositions illustrated so far seems to be challenged by the claim often encountered in the literature that prepositions in Chinese *are* compatible with aspect suffixes. However, this claim does not bear further scrutiny, because it can be shown to arise from the confusion between homophonous preposition and verb, i.e. the possibility to mark the *verb* in an

¹⁵ This sentence is also unacceptable with the verb *wǎng* ‘go (in the direction of)’ confirming the observation made above that *wǎng* is not on a par with the currently used verb *qù* ‘go’, but confined to verbal compounds and fixed expressions:

- (i) *Wǒmen míngtiān yào qù/*wǎng Shànghǎi*
1PL tomorrow want go/ go Shanghai
‘We will go to Shanghai tomorrow.’

adjunct clause with aspectual suffixes has been misinterpreted as an instance of the homophonous *preposition* displaying verbal characteristics. Also note that once again the alleged compatibility of prepositions with aspectual suffixes is observed only for the preverbal adjunct position, a point, though, passing unnoticed and never commented upon by the proponents of the *one and a half category* scenario.

Let us first look at the pair verb *gēn* ‘follow’ and preposition *gēn* ‘with, to; from’:

- (32) *Nǐ gēn -zhe tā*
2SG follow-DUR 3SG
‘Follow him!’
- (33) *Wǒ [vP [PP gēn tā] [vP shuō huà]]*
1SG with 3SG talk word
‘I speak to him.’
- (34) *Wǒ [vP [PP gēn tā] [vP jiè qián]]*
1SG from 3SG borrow money
‘I borrow money from him.’

Only the verb *gen* ‘follow’ is compatible with aspect (cf. [32]), but not the preposition *gen* ‘with, to; from’ (cf. [33] and [34]). Accordingly, when *gēn* in sentences (33) and (34) is suffixed with the durative aspect suffix *-zhe* (cf. [35a] and [35b]), it must be analysed as the verb ‘to follow’, i.e. in this case the adjoined phrase is not a PP, but an adjunct clause, and the interpretation changes accordingly, provided the sentence is acceptable at all:

- (35) a. # *Wǒ [vP [adj.cl pro gēn -zhe tā] shuō huà]*
1SG follow-DUR 3SG talk word
‘I - doing as he does - talk.’
[Not: ‘Following him, I’m talking (to myself, to him or to a third person).’]
- b. * *Wǒ [vP [adj.cl pro gēn -zhe tā] [vP jiè qián]]*
1SG follow-DUR 3SG borrow money

Note that some speakers reject both (35a) and (35b) without the *gēn*-PP indicating the interlocutor (‘talk to him’) or source (‘borrow from him’) and with an adjunct clause instead, the latter not being able to encode these roles. For those speakers who accept (35a) (hence the mark #) the verb *gēn* here must be understood in the figurative sense ‘follow an example, do as somebody else does’.

By contrast, both groups of speakers accept the sentences in (36a-c) with an adjunct clause containing the verb *gēn* ‘follow’ (in both the literal and the figurative sense), because they involve a matrix predicate that is complete and does not need to be supplemented with a role normally encoded by a *gēn*-PP:

- (36) a. *Wǒ gēn -zhe tā jìn chéng*
1SG follow-DUR 3SG enter city
‘Following him, I went downtown.’
- b. *Wǒ gēn -zhe tā zuò -le jǐ -nián mǎimài*
1SG follow-DUR 3SG do -PERF several year business
‘I have done business for several years following him, i.e. under his direction.’
- c. *Wǒ gēn -zhe tā xué qìgōng*
1SG follow-DUR 3SG learn Qigong
‘I am learning Qigong following him, i.e. under his direction.’

Likewise, only the verb *gēn* can be suffixed with *-le* or *guo*; the resulting sentence (based on [33] and [34] with a *gēn*-PP) is, however, rejected by both groups of speakers, because leading at best to a nonsensical interpretation ('I have followed him (once) and talked/borrowed money.')

- (37) **Wǒ gēn -le /guo tā shuō huà /jiè qián*
 1SG follow-PERF/EXP 3SG talk word/ borrow money

Again, the confusion with respect to preposition or verb arises in the preverbal adjunct position where both PPs and adjunct clauses can occur; but even in this structural context, substituting an adjunct clause containing the verb *gēn* for a PP headed by *gēn* often leads to unacceptability.

In the topic position, we observe a very sharp contrast; while a *gēn* PP is perfectly acceptable here, a null subject clause with the verb *gēn* bearing one of the aspect suffixes is rejected:

- (38) a. [_{TopP} [_{PP} *Gēn Amēi*], [_{TP} *wǒ shuō zhōngwén hé yīngwén*],
 with Amei 1SG speak Chinese and English
 [_{TopP} [_{PP} *gēn Měilì*], [_{TP} *wǒ zhǐ shuō yīngwén*]
 with Mary 1SG only speak English
 'With Amei, I speak Chinese and English, with Mary, I only speak English.'
- b. [_{TopP} [_{PP} *Gēn Amēi*], [_{TP} *wǒ jiè qián*],
 from Amei 1SG borrow money
 [_{TopP} [_{PP} *gēn Měilì*], [_{TP} *wǒ zhǐ jiè shū*]
 from Mary 1SG only borrow book
 'From Amei, I borrow money, from Mary, I only borrow books.'

- (39) * [_{TopP} [_{pro} [_{VP} *gēn -zhe /le /guo tā*] [_{TP} *wǒ shuō huà /jiè qián*]]
 follow-DUR/PERF/EXP 3SG 1SG talk word/ borrow money

In other words, for pairs of homophonous verb and preposition, it is only the verb that is compatible with aspectual suffixes. In order to see this, it is indispensable to control both for syntax (adjunct position vs. other positions) and semantics, especially if the meanings of the preposition and of the homophonous verb are rather close, as in some of the examples involving the preposition *gēn* 'with' and the verb *gēn* 'follow (the example of)'.

The point just made that for a given pair of homophonous preposition and verb the presence of an aspect suffix involves the *verb* member can also be neatly illustrated for the pair verb *dào* 'arrive, go to' and preposition *dào* 'until to'. The demonstration is more "straightforward" here because a clause with the verb *dào* 'arrive' is acceptable in topic position, due to lexical properties of *dào*.

The verb *dào* to be compared here with the preposition *dào* 'to, until' is the unaccusative verb *dào* 'X arrives' (whose unique internal argument can also be a temporal expression) rather than the transitive verb *dào* 'go to, arrive at' requiring an animate subject and a place noun as object (cf. [41]):

- (40) a. *Chūntiān zhōngyú dào -le*
 spring finally arrive-PERF
 'Spring has finally come.'
- b. *Dào -le yī-ge xīn de jiēduàn*
 arrive-PERF 1-CL new SUB phase
 'A new phase has come.'
- c. *Zuótiān dào -le yī-pī huò*
 yesterday arrive-PERF 1-CL goods
 'A batch of goods arrived yesterday.'

- (41) *Tā dào -le Běijīng/ *chūntiān/*yī-ge xīn de jiēduàn*
 3SG arrive-PERF Beijing/ spring / 1-CL new SUB phase
 ‘He has arrived at Beijing.’

As illustrated in (40a) to (40c), the unique argument NP of the unaccusative verb *dào* ‘arrive’ can either follow *dào* (i.e. remain in the verbal projection) or raise to the subject position (Spec, TP). In fact, in dependent clauses (i.e. adjunct clause and clause in topic position), the postverbal position is the default position:

- (42) a. *[_{TopP} [_{Dào} (-le) wǎnshàng] [_{TP} tā jiù kàn diànshì]]*
 arrive-PERF evening 3SG then watch television
 ‘When the evening has come, he watches TV.’

- b. *[_{TP} Tā [_{dào} (-le) wǎnshàng] jiù kàn diànshì]*
 1SG arrive-PERF evening then watch television
 ‘When the evening has come, he watches TV.’

- (43) *{Dào (-le) xiàwǔ } wǒmen {dào (-le) xiàwǔ } zài tán ba*
 arrive-PERF afternoon 1PL arrive-PERF afternoon then talk SFP
 ‘Let’s talk about it in the afternoon then;’ (Literally: ‘when the afternoon has arrived’)

Dào both in the adjunct clause and the sentential topic is the verb *dào*, as indicated by the acceptability of the perfective aspect suffix *-le*.

By contrast, the preposition *dào* ‘to, until’ is incompatible with *-le*:

- (44) *Tā [_{PP} dào(*-le) Shànghǎi] qù-le*
 3SG to -PERF Shanghai go-PERF
 ‘He went to Shanghai.’

- (45) a. *[_{TopP} [_{dào-PP} [_{PP} Cóng [yī-diǎn] dào(*-le) sān-diǎn]] [_{TP} tā shàng yīngwénkè*
 from 1-o’clock to -PERF 3 -o’clock 3SG go English.lesson

- b. *[_{TP} Tā [_{dào-PP} [_{PP} cóng [yī-diǎn] dào(*-le) sān-diǎn]] [_{VP} shàng yīngwénkè]]*
 3SG from 1-o’clock to -PERF 3 -o’clock go English.lesson

‘He has his English lesson from one o’clock to three o’clock.’

- (46) *[_{TopP} [_{dào-PP} [_{PP} Cóng [pro kāishǐ shàng xué]]] [_{dào} (*-le) xiànzài]*
 from start go school until -PERF now
[_{TP} Xiǎo Huá yīzhí chéngjī hěn hǎo] (Lǚ Shuxiang et al. 1980: 130)
 Xiao Hua always result very good
 ‘From when she started school until now, Xiao Hua has always had good results.’

- (47) *Tā měi -tiān [_{dào-PP} [_{PP} cóng jiālǐ dào(*-le) xuéxiào] pǎo sān gōnglǐ*
 3SG every-day from home to school run 3 km
 ‘Every day, he runs three kilometers from home to the school.’

Note that the *dào*-PP in preverbal position has a rather limited distribution. It occurs with the verbs *lái* ‘come’ and *qù* ‘go’ (cf. [44]) and then indicates direction (*dào* + place noun); elsewhere, it requires the presence of a *cóng* PP as modifier in its specifier position, thus indicating a time span (cf. [45] and [46]) or path between two locations (cf. [47]) ‘from X to Y’. Only in the latter case is the *dào*-PP

acceptable in the topic position, because with verbs of direction the *dào*-PP in fact has argument status and must occur within the sentence (TP), i.e. to the right of the subject.¹⁶

Interestingly, this makes *dào* the only preposition to my knowledge that is not “degenerate” in the sense of Huang (1982: 27, 61), who points out that prepositions in Chinese lack a specifier position to host modifiers. Consequently, according to Huang, Chinese has no equivalents for English PPs of the format in (48):

- (48) [_{PP} very [_P near [_{NP} the house]]] (Bresnan 1976)

The examples (45) to (47), however, show exactly this structure, *modulo* the fact that the modifier in the specifier position of the PP headed by *dào* is a PP itself, indicating the starting point (cf. chapter 4.4.3 below for further discussion):

- (49) [_{dàoPP} [_{cóng NP}] [_{dàoP} *dào* NP]]
 from to

Whether this exceptional property of the preposition *dào* ‘until’ is due to its having been reanalysed from an inaccusative verb remains to be investigated.

To conclude, as demonstrated by the detailed discussion of the two verb-preposition pairs *gen* and *dào*, the defining characteristic of prepositions distinguishing them from verbs, viz. the impossibility of functioning as a predicate, has a number of syntactic and semantic consequences. Previous studies have neither paid enough attention to the distributional differences between PPs and clauses with the homophonous verb nor to the corresponding semantic differences. In other words, the minute comparison of verb *gēn* and preposition *gēn* as well as verb *dào* and preposition *dào* undertaken above could be repeated for every homophonous verb-preposition pair and would provide numerous differences ultimately reducible to the categorial dichotomy verb vs preposition.

3.4. Ban on adposition stranding

3.4.1. PPs in the preverbal adjunct position

In Chinese as in many other languages prepositions – unlike verbs – require their complement to be overt. Accordingly, the complement cannot be a null pronoun whose content is recoverable from the context, nor an empty category resulting from the movement of the complement to another position.

- (50) *Tā měi -tiān* [_{vP} [_{PreP} *zài jiā*] [_{vP} *shuì wǔjiào*]],
 3SG every-day at home sleep nap
wǒ yě měi -tiān [_{vP} [_{PreP} *zài *(jiā)*] [_{vP} *shuì wǔjiào*]].
 3SG also every-day at home sleep nap
 ‘He takes a nap at home every day, and I also take a nap at home every day.’

- (51) *Wǒ gāngcái qù-le yī-tàng, tā méi* [_{vP} *zài (jiā)*]
 1SG just go-PERF 1-time 3SG NEG be home
 ‘I just went there, he wasn’t at home/he wasn’t in.’ (Lü Shuxiang et al. 1980: 230)

¹⁶ The same holds for the *cóng*-PP, which is confined to the TP-internal preverbal position when in combination with verbs such as *lái* ‘come’, *chūfā* ‘start out’ (cf. [i]), but acceptable in the sentence-initial topic position when the verb does not select a source-PP as argument (cf. [ii]):

- (i) *(*[_{PP} cóng nóngcūn])* [_{TP} *Tā gāngcái* [_{PP} *cóng nóngcūn*] *huílai-le*]
 from village 3SG just from village return-PERF
 ‘He has just returned from the village.’
 (ii) *{cóng zhèr}* [_{TP} *Nǐ {cóng zhèr} wàng nán zǒu*]
 from here 2SG from here toward southgo
 ‘From here, you go toward the south.’

While for the verb *zài* ‘to be at’ in (51) the presence of the object *jiā* ‘home’ is optional, the preposition *zài* ‘at’ obligatorily requires its complement to be present, even if it is redundant from an informational point of view, because mentioned in the immediately preceding sentence in (50).

Huang C.-T. James (1982) illustrated this *ban on preposition stranding* with examples involving movement of the preposition’s complement, i.e. relativization (cf. [5a]) and topicalization (cf. [52b]):

- (52) a. * $[_{NP} [_{TP} \text{wǒ} [_{vP} [_{PreP} \text{gēn} [e]_i] [_{vP} \text{bù} \text{shóu}]]] \text{de}] \text{nèi} -\text{ge} \text{rén}_i]$
 1SG with NEG familiar SUB that-CL person
 (‘the person I’m not familiar with’)
- b. *Zhāngsān_i $[_{TP} \text{wǒ} [_{PreP} \text{gēn} [e]_i] \text{bù} \text{shóu}]$ (C.-T. James Huang 1982: 499; [109a-b];
 Zhangsan 1SG with NEG familiar bracketing supplied by me)
 (‘Zhangsan, I’m not familiar with.’)

However, since in both examples the PP occupies the preverbal adjunct position, the ungrammaticality observed in (52a) and (52b) can in principle also be the result of the *Adjunct Island Constraint* (AIC) excluding extraction from an adjunct, subsumed by C.-T. James Huang (1982: 503) under the *Condition on Extraction Domain* (CED). In other words, extraction of the object from an adjunct clause is likewise prohibited and accordingly, the adjunct position is not a diagnostic context to distinguish between verbs and prepositions with respect to extractability of their complement. The same caveat applies to McCawley (1994) who also uses the impossibility to extract the complement of a preposition as one of his arguments for the verb vs. preposition distinction, without paying attention, though, to the fact that his ungrammatical examples all involve extraction from a PP in the preverbal adjunct position. Again, it is impossible to determine whether these examples are unacceptable because of the AIC/CED or rather due to the ban on preposition stranding.

3.4.2. PPs in postverbal argument position

What about extraction from PPs occurring in other positions where no independent constraint such as the AIC/CED intervenes? PPs in topic position cannot serve as test ground, because it is unclear what position the extracted complement should raise to. There only remains the postverbal position, which – as pointed out in chapter two – is reserved for arguments; as a result, the set of prepositions acceptable here is confined to *gěi* ‘to, for’, *zài* ‘at, in’, or *dào* ‘to, until’ (also cf. Ernst 1989:123).

- (53) a. $Tā \text{ mài} -\text{le} \text{ yī} -\text{ge} \text{ shǒubiǎo} [_{PP} \text{gěi} *(-\text{le}) \text{ Měilì}]$
 3SG sell-PERF 1-CL watch to -PERF Mary
 ‘He sold a watch to Mary.’
- b. $Tā \text{ dǎ} -\text{le} \text{ jǐ} -\text{cì} \text{ diànhuà} [_{PP} \text{gěi} *(-\text{le}) \text{ péngyou}]$
 3SG strike-PERF several -time phone to -PERF friend
 ‘She called her friends several times.’
- c. $Tā \text{ jì} -\text{le} \text{ yī} -\text{ge} \text{ bāoguǒ} [_{PP} \text{gěi} *(-\text{le}) \text{ Měilì}]$
 3SG send -PERF 1 -CL parcel to -PERF Mary
 ‘He sent a parcel to Mary.’
- (54) a. $Tā \text{ fàng} -\text{le} \text{ yī} -\text{ge} \text{ xiāngzi} [_{PP} \text{zài} *(-\text{le}) \text{ zhuōzi} \text{ shàng}]^{17}$
 3SG put -PERF 1-CL box in -PERF table on
 ‘He put a box on the table.’

¹⁷ For some speakers from the North, this structure is marginal, while speakers from the South accept it without problems. Note that the structure ‘V NP *zài* NP’ requires an indefinite object NP of the form ‘Quantifier-Classifier NP’ (cf. Lü Shuxiang et al. 1980: 646):

(i) $Nǐ \text{ xiě} *(\text{yī} -\text{ge}) \text{ míngzi} \text{ zài} \text{ shàngtóu}$
 2SG write 1-CL name in top
 ‘Write a name on the top.’

- b. *Nǐ xiě jǐ -ge zì zài běnzi shàng*
2SG write several -CL character in notebook on
'Write down several characters into your notebook.'
- c. *Tā diū -le shénme zài chē shàng ?*
3SG lose-PERF what in car on
'What did he leave in the car?'
- (55) a. *Tā dǎ -le jǐ -cì diànhuà [PP dào(*-le) bàngōngshì]*
3SG strike-PERF several -time phone to -PERF office
'She called the office several times.'
- b. *Tā jì -le yī -ge bāoguǒ [PP dào*(-le) Shànghǎi]*
3SG send -PERF 1 -CL parcel to -PERF Shanghai
'He sent a parcel to Shanghai.'

The verbs in (53) to (55) select a goal PP in addition to the theme NP; as already shown above, the prepositions are incompatible with aspect suffixes. As to be expected, topicalization of the complement of the PP leaving an empty category (trace/copy) behind results in ungrammaticality:

- (55) * $[_{TopP} \text{ Měilì } [_{TP} \text{ wǒ mài-le yī-ge shǒubiǎo } [_{PP} \text{ gěi } [e]_i]]]$
Mary 1SG sell-PERF 1-CL watch to
- (56) * $[_{TopP} [Zhuōzi \text{ shàng}]_i [_{TP} \text{ tā fàng -le yī-ge xiāngzi } [_{PP} \text{ zài } [e]_i]]]$
table on 3SG put -PERF 1-CL box in
- (57) * $[_{TopP} [Tā \text{ de bàngōngshì}]_i [_{TP} \text{ tā dǎ -le jǐ -cì diànhuà } [_{PP} \text{ dào } [e]_i]]]$
3SG SUB office 3SG strike-PERF several -time phone to

Since in principle nothing rules out extraction from an argument position within the verbal projection, the ungrammaticality of (55) to (57) must be due to the ban on preposition stranding. These extraction data thus tie in with the observation made above (cf. [50]) that a preposition in Chinese requires an overt complement, to the exclusion of *in situ* null pronouns as complements.

Besides providing an additional test context to confirm the validity of the ban on preposition stranding in Chinese, examples (53) to (55) above also illustrate the acceptability of PPs in postverbal position. This is important insofar as Huang, Li and Li (2009: 31) postulate an "independent requirement in Modern Chinese that within a clause, a preposition does not ever occur after a verb. In the absence of counterexamples, we extend the same conclusion [as obtained for *gěi* 'to, for'; WP] to other members of class (42c) such as *zài* and *xiàng*."¹⁸ In other words, they consider *gěi* in 'V NP [*gěi* NP]' (cf. [53] above) as verb, thus adopting Y.-H. Audrey Li's (1990: 110) viewpoint, without giving any indication though, as to the type and size of projection containing the alleged verb *gěi*, nor do they mention the unacceptability of the aspect suffix on *gěi* here. Furthermore, under their verbal analysis of *gěi* the ban on extraction of the goal NP in the structure 'V NP [*gěi* NP]' remains mysterious, another issue not addressed at all.

By contrast, an analysis of the projections headed by *gěi* 'to, for', *zài* 'in', and *dào* 'to, until' as PPs is compatible with the observations above and also allows us to straightforwardly account for the "subcategorizing" effect of these PPs, another point neglected by Huang, Li and Li (2009). As a matter of fact, the dependance of a postverbal PP (headed by *gěi*, *zài* or *dào*) on the verb, i.e. its status as

¹⁸ Note that Huang, Li and Li (2009) concentrate on postverbal *gěi* and do not examine the corresponding structures with a postverbal PP headed by *zài* 'in' or *dào* 'to': 'V NP [*zài/dào* NP]'. If they had done so, they would have seen even more clearly that a verbal analysis leads to a non-sensical interpretation, viz. 'She made several phone calls and gave to her friends' for (53b), 'What did he lose and was in the car?' for (54c), and 'He sent a parcel and arrived at Shanghai' for (55b).

argument selected by the verb, has long been known in the literature (cf. a.o. Teng Shou-hsin 1975, Zhu Dexi 1979, 1983). Thus, double object verbs *par excellence* such as *mài* ‘sell’, *jì* ‘send’, but also double object verbs “by extension” such as *dǎ diànhuà* ‘make a phone call’ c-select a *gěi*-PP as goal (cf. [53b], repeated in [58] below), and thereby contrast with simple transitive verbs such as *chàng gē* ‘sing a song’, for which a postverbal *gěi*-PP is excluded:

- (58) *Tā dǎ -le jǐ -cì diànhuà* [_{PP} *gěi péngyou*]
 3SG strike-PERF several -time phone to friend
 ‘She called her friends several times.’

- (59) a. **Tā chàng ge gē* [_{PP} *gěi péngyou*]
 3SGsing CL song to friend
 b. *Tā* [_{PP} *gěi péngyou*] *chàng ge gē*
 3SG to friend sing CL song
 ‘He sings a song for his friends.’

As illustrated in (59b), a *gěi*-PP in the preverbal adjunct position is perfectly acceptable for *chàng gē* ‘sing a song’ and indicates the benefactive here.

Similarly, while *xiě* ‘write’ select a *zài*-PP as additional (location) argument (cf. [54b] repeated below in [60]), the compound verb *chāo-xiě* ‘copy-write’ = ‘to copy’ does not, as witnessed by the unacceptability of a postverbal *zài*-PP in (61a). The same *zài*-PP is, however, acceptable in the preverbal adjunct position (cf. [61b]):

- (60) *Nǐ xiě jǐ -ge zì zài běnzi shàng*
 2SG write several -CL character in notebook on
 ‘Write down several characters into your notebook.’

- (61) a. **Tā chāo-xiě liǎng -ge shēngzì* (*[_{PP} *zài běnzi shàng*])
 3SG copy-write 2 -CL new.word in book on
 b. *Tā* [_{PP} *zài běnzi shàng*] *chāo-xiě liǎng -ge shēngzì*
 3SG in book on copy-write 2 -CL new.word
 ‘He copied two new words in his notebook.’

Zhang Cheng (1997: 45)

3.5. Interim summary

The preceding sections have established the existence of the category preposition in Chinese as distinct from that of verbs. This result is not surprising insofar as it confirms - although in a more explicit fashion - Chao Yuen Ren’s stand on that issue. As a matter of fact, although in his section 8.2.1 on *Prepositions as a separate word class* Chao Yuen Ren (1968: 749) indistinctly uses the terms *coverb* and *preposition*, he nonetheless provides the following *formal features of prepositions* – so the title of his section 8.2.2 (p. 749) – allowing to distinguish them from verbs. Prepositions are not compatible with aspect (p. 749–750), they cannot function as predicates (p. 750), and - unlike verbs - do not omit their object (p. 751). Last, but not least, concerning the numerous verb- preposition pairs which have caused so much confusion in Chinese linguistics, Chao Yuen Ren (1968: 761) has no qualms treating them as what they are, viz. as *homophone-homographs*, even if he seems to reserve this point of view for those pairs where the meaning difference between the verb and the “corresponding” preposition is quite considerable.

In addition to these criteria already used by Chao Yuen Ren (1968), we have seen that distributionwise PPs do not pattern with VPs, but with NPs, i.e. they show the same positional argument/adjunct asymmetry as NPs. Consequently, a PP occupies a postverbal position only when being an argument selected by a verb, otherwise it occurs in the preverbal adjunct position to the right or to the left of the subject. This distribution would be very difficult to account for in the *one and a half* category scenario where prepositions are a kind of verb. In the same vein, the diverging selectional restrictions displayed by the homophonous verb and preposition in a given pair likewise

argue against any conflation of these categories. This is particularly obvious in the case of the verb *gěi* and the preposition *gěi*; while *gěi* ‘give’ as a double object verb selects both a theme argument and a recipient argument, the “corresponding” preposition *gěi* ‘to, for’ only has one complement, as all the other prepositions

As already briefly alluded to above, to try to dispense with the category preposition in order to “economize” on the category adposition in Chinese is doomed to failure, given the existence of postpositions in Chinese (cf. chapter four below). Furthermore, even if one somehow succeeded in doing without the category adposition, this would not solve the general dilemma at the origin of the hesitation concerning homophonous verb-preposition pairs in Chinese, i.e. how to deal with homophonous items of different categorial nature. As a matter of fact, verb and preposition are not the only categories with homophonous members; as seen in (1a) and (1b) above, the prepositions *hé* ‘with’ and *gēn* ‘with’, for example, are homophonous with the coordinating conjunctions *hé* ‘and’ and *gēn* ‘and’. Furthermore, besides the verb *zài* ‘be at’ and the preposition *zài* ‘in’ there also exists the aspectual head *zài* selecting a VP. Last, but not least, in addition to the verb *gěi* ‘give’ and the preposition *gěi* ‘to, for’, several other categorially different items *gěi* must be taken into account, such as the verb *gěi* ‘let someone do something’ and the applicative head *gěi* (selecting a VP headed by a double object verb, cf. chapter 2.2.2.2 above). In brief, there is no way avoiding the existence of homophonous items instantiating different categories, and the pairs of homophonous verbs and prepositions illustrate just one such case.

3.6. Prepositions and diachrony

Studies adopting the *one and a half category scenario* and assigning a hybrid status to Chinese prepositions invariably evoke their “verbal origin”, without however spelling out how such historical information available only to the specialist in diachronic syntax can be accessible to the child acquirer and the native speaker of today and constitute part of her/his synchronic grammar. Echoing a widely accepted view, Huang, Li and Li (2009: 26), for example, state: “The class of prepositions is one of the most poorly defined categories in Chinese, due to the fact[s] that the so-called prepositions in the language *all* have their historical origins as verbs [...]” (emphasis mine). Moreover, if we take the statement about the verbal origin of *all* prepositions as holding for the *attested* history of Chinese, it turns out to be simply wrong.

In the earliest documents from pre-Archaic Chinese, i.e. the Shang inscriptions (13th c. BC – 11th c. BC), we find the three prepositions *zì* ‘from’, *yú* ‘at, to’ and *zài* ‘in’; in other words an item can start out as a preposition without necessarily resulting from the reanalysis of a verb, even though verb-to-preposition reanalysis naturally is a frequent source for prepositions in Chinese (cf. Djamouri and Paul 1997, 2009; Whitman 2000; Whitman and Paul 2005, and references therein). The existence of prepositions “born” as such is in fact trivial because if the category preposition did not exist beforehand, V-to-P reanalysis would simply not be possible.

This section first discusses briefly the arguments in favour of the prepositional status of *zì* ‘from’, *yú* ‘at, to’ and *zài* ‘in’ in the Shang inscriptions (for further discussion, cf. Djamouri 1988, Djamouri and Paul 2009) and shows that the set of properties characterizing prepositions in modern Mandarin likewise holds for the prepositions *zì* ‘from’, *yú* ‘at, to’ and *zài* ‘in’, i.e. prepositions reanalysed from verbs and prepositions “born” as such behave alike. It then examines in detail a concrete case of V-to-P reanalysis, paying particular attention to the structural context in which reanalysis can occur and the constraints applying here. The section concludes with an assessment of general claims about V-to-P reanalysis (cf. a.o. Longobardi 2001, Roberts and Roussou 2003) against the background of the results obtained in Chinese.

As in Modern Mandarin, PPs in the Shang inscriptions pattern with NPs, not with VPs. When argument, a PP must occupy the postverbal position, as illustrated below for the (abstract location) PP selected by the verb *lù* ‘abound’ in (62) and the recipient PP of donatory verbs in (63) to (65).¹⁹

¹⁹ Given that the proponents of a verbal interpretation of these prepositions concentrate on spatial location and never take into account temporal and abstract location, the examples provided involve these latter two, where possible. The cases of temporal and abstract location are important, because here the *translation* with a verb, the only “argument” provided in favour of verbal status, is excluded (cf. [ii]), whereas it is in principle possible for a

Importantly, all the three prepositions can head the recipient PP in a double object construction, which is clearly incompatible with a verbal analysis. Note in this context that there is no evidence for verbs *yú* and *zì* in the entire history of Chinese (*contra* a.o. Pulleyblank 1995, Mei Tsu-lin 2004, Guo Xiliang 1997, 2005), while the verb *zài* is attested later only, i.e. in the Western Zhou bronze inscriptions (10th c. BC) (cf. Djamouri and Paul 1997).

- (62) 婦姁魯于黍年 (Heji 10132 recto)
Fù Jīng [_{VP} *lǚ* [_{PPabst.loc} *yú shǔ nián*]]
 lady Jing abound in millet harvest
 ‘Lady Jing will abound in the millet harvest.’
- (63) 王其侑于小乙羌五人 (Heji 26922)
Wáng qí [_{VP} *yòu* [_{PPgoal} *yú Xiǎoyǐ*] [_{NP} *Qiāng wǔ rén*]]
 king FUT offer to Xiaoyi qiang five man
 ‘The king will offer Xiaoyi five Qiang tribesmen.’
- (64) 其侑在父庚 (W 1374)
[TP pro [_{VP} *Qí* *yòu* [_{PPgoal} *zài fù Gēng*]]
 FUT offer to father Geng
 ‘One will offer [the sacrifice] to Father Geng.’
- (65) 其登鬯自小乙 (Heji 27349)
[TP pro [_{VP} *qí* [_{dēng} [_{NP} *chàng*] [_{PPgoal} *zì Xiǎoyǐ*]]]
 FUT elevate.in.sacrifice millet.alcohol from Xiaoyi
 ‘One will sacrifice millet alcohol to (a whole genealogy of ancestors starting from) the ancestor Xiaoyi.’

Argument PPs – like argument NPs – only occur in a sentence-internal preverbal position when focalized. As pointed out above (cf. section 2.1.2), the relevant focus pattern in the Shang inscriptions is restricted to a type of cleft construction akin to modern Mandarin *shì...de* clefts:

- (66) a. 王侑歲于祖乙 (Heji 3213)
Wáng yòu suì [_{PP} *yú Zǔyǐ*]
 king present immolation to Zuyi
 ‘The king will present an immolation sacrifice to Zuyi.’
- b. 于父丁侑歲 (*ibid.*)
*[[PP Yú Fùdīng] [_{VP} *yòu suì*]]]
 to Fuding present immolation
 ‘It is to Fuding that [the king] will present an immolation sacrifice.’*

spatial locative (cf. [i]) – provided there exists a homophonous verb – and then in preverbal adjunct position only, another point completely neglected:

- (i) 王在師稻蓼 (Heji 24255)
Wáng [_{VP} [_{PPspat.} *zài shī Dào*] *huàn*]
 king at camp Dao raise
 ‘The king at the camp Dao/being at the camp Dao will raise [animals].’
- (ii) 子商亡斷在囿 (Heji 02940)
Zǐ Shāng [_{VP} *wáng duàn* [_{PPabstr.} *zài huò*]]
 prince Shang have:not end in misfortune
 ‘The prince Shang will not end in misfortune.’
 (Not: ‘The prince will not end [and] be in misfortune.’)

(66b) is the matching sentence for (66a), i.e. it shares with it the presupposition – ‘the king will present an immolation’ – but varies on the recipient PP *yú Fuding* ‘to Fuding’, which is focalized (‘to Fuding’ vs. ‘to Zuyi’).

When adjuncts, PPs – like NPs – can occur in three positions, i.e. preverbally to the right and the left of the subject as well as postverbally. Recall that in contrast to modern Mandarin, adjuncts *were* allowed in the postverbal position in the Shang inscriptions. (Cf. section 2.1.1. above for a systematic demonstration of the distributional parallel between adjunct NPs and PPs.)

Let us start with the sentence-internal preverbal adjunct position:

- (67) 王在十二月在襄卜 (Heji 24237)
Wáng [_{vP} [_{PP} *zài shí'èr -yuè*] [_{vP} [_{PP} *zài Xiāng*] [_{vP} *bǔ*]]]
 king at twelve-month at Xiang divine
 ‘The king in the twelfth month made the divination at Xiang.’

(67) illustrates a case with two adjunct PPs both headed by *zài* ‘at’ and indicating a temporal and a spatial locative, respectively.

- (68) 王于七月入于商 (Heji 7780 r.)
Wáng [_{vP} [_{PPtemp.} *yú qī -yuè*] [_{vP} *rù* [_{PPspat.} *yú Shāng*]]]
 king in seven-month enter in Shang
 ‘The king in the seventh month will enter the Shang city.’

In (68), *yú qī-yuè* ‘in the seventh month’ is an adjunct, while the postverbal PP *yú Shāng* ‘in the Shang city’ is the location argument of the verb *rù* ‘enter’.

Adjunct PPs are likewise acceptable in sentence-initial position:

- (69) 在王其先邁捍 (Ying 593)
[PP Zài Nǚ] *wáng qí xiān gòu hàn*
 at Nü king FUT advance meet opposition
 ‘At Nü, the king will advance and meet an armed opposition.’

- (70) 自旦至食日不雨 (TUNNAN 42)
[PP Zì dàn] *zhì shí rì bù yǔ*²⁰
 from dawn until mealtime NEG rain
 ‘From dawn to mealtime, it will not rain.’

Finally, adjunct PPs also occur in the postverbal position:

- (71) 乎多犬网鹿于麓 (Heji 10976 recto)
Hū duō quǎn [_{vP} *wǎng lù* [_{PP} *yú Nóng*]]
 order numerous dog.officer net deer at Nong
 ‘Call upon the many dog-officers to net deer at Nong.’
- (72) 乞令吳以多馬亞省在南 (Heji 564 recto)
Qì lìng Wú yǐ duō mǎ yǎ [_{vP} *xíng* [_{PP} *zài nán*]]
 Qi order Wu lead numerous military.officer inspect in south
 ‘Officer Qi will order Wu to lead the numerous military officers to carry out an inspection in the south.’

²⁰ The PP *zì dàn* ‘from dawn’ is probably to be analysed as the modifier, hence in the specifier position, of the PP headed by *zhì* ‘until’, akin to the analysis proposed above for [_{dào-PP} [_{cong-PP} *cóng NP*] *dào NP*] (cf. [49], section 3.3). However, this issue is difficult to settle with certainty, given the existence of the verb *zhì* ‘arrive’ in the Shang inscriptions.

- (73) 晨允雨自西 (Heji 20965)
 Zè yǔn yǔ [PP zì xī]
 evening effectively rain from west
 ‘In the evening effectively it rained from the west.’

In both (71) and (72), the postverbal adjunct PP is contained in the clausal complement of a verb (*hū* ‘order’ and *yǐ* ‘lead’, respectively). (73) finally illustrates a sentence with an adjunct NP *zè* ‘evening’ in sentence-initial position and the adjunct PP *zì xī* ‘from the west’ in postverbal position.

The distributional parallel between PPs and NPs demonstrated above is one argument in favour of the prepositional status of *yú* ‘in, to’, *zài* ‘in’ and *zì* ‘from’. Furthermore, no examples are attested where these prepositions lack a complement, which suggests that the ban on preposition stranding holds for the Shang inscriptions as well. Finally, PPs cannot function as predicate, as witnessed by the absence of structures where an auxiliary selects a PP complement:

- (74) *S 勿/其/不于/在/自 NP
 *Swù / qí / bù [PP yú/ zài/ zì NP]
 must.not / FUT/ NEG to / at / from

The only analysis of *yú* ‘in, to’, *zài* ‘in’ and *zì* ‘from’ compatible with the entire array of data provided here, both with respect to their syntactic and semantics properties, is one in terms of prepositions. Accordingly, it is not correct to claim that all prepositions result from V-to-P reanalysis.²¹ On the contrary, *yú*, *zài* and *zì* in the Shang inscriptions are prepositions from their very first attestations on.

Let us now have a brief look at prepositions that do result from the reanalysis of a verb. *Cóng* ‘from’ is such a case. The verb *cóng* ‘follow, pursue’ is already attested in the Shang inscriptions (13th c. BC – 11th c. BC). As pointed out by Ohta (1958), it is difficult to pinpoint down when exactly the reanalysis of the verb *cóng* as preposition *cóng* ‘from’ took place. but it certainly dates back to the period of Classical Chinese (5th c. BC – 3rd c. BC), where we find both the verb *cóng* ‘follow’ (cf. [75]) and the preposition *cóng* ‘from’ (cf. [76]):

- (75) 夏诸侯之大夫从晋侯伐秦
 Xià , [TP zhūhóu zhī dàifū [vP [adj.clause pro [vP cóng Jìn hóu]] [vP fá Qín]]]
 summer feudal.lord SUB high.offical follow Jin duke attack Qin
 ‘In summer, the high officials of the feudal lords, following the duke of Jin, attacked Qin.’ (左传 襄公十四年 Zuozhuan: Xianggong 14; 5th c. - 3rd c. BC)

- (76) 從台上彈
 [TP pro [vP [PP Cóng tái shàng] [vP tán rén]] (左传; 宣公二年 Zuozhuan:
 from platform top shoot people Xuangong 2; 5th c. - 3rd c. BC).
 ‘He shot people from up on the platform.’

In (75) the external argument, i.e. the subject of the verb *cóng* ‘follow’ in the adjunct clause is a null pronoun controlled by the matrix subject *zhūhou zhī daifu* ‘the high officials of the feudal lords’. The PP headed by *cóng*, in contrast, gives no evidence of being associated with a (covert) subject position; in an example like (76) with a covert matrix subject there is no obvious controller for such a position. Also note that as a consequence of the reanalysis, the meaning has changed, from ‘follow’ to ‘from’ (cf. [76]), which – as in English – can also refer to an abstract source, as illustrated in the modern Mandarin example (77):²²

²¹ Naturally, this statement holds for the attested material only and does not concern (untestable) speculations positing a verbal origin for the periods *before* any textual evidence.

²² To be precise, the preposition *cóng* in modern Mandarin also has the meaning ‘by way of’, the latter of which might show a closer link to the meaning of the verb *cóng* ‘pursue, follow’:

(i) *cóng xiǎo lù zǒu* (Lü Shuxiang et al. 1980: 131)
 by smallroad walk

- (77) [_{TopP} [_{PP} *Cóng jiǎobùshēng*] [_{TP} *wǒ jiù néng tīngchū shì nǐ*]]
 from footsteps 1SG then can discern be 2SG
 ‘From the footsteps I could hear that it is you.’ (Lü Shuxiang et al. 1980: 131)

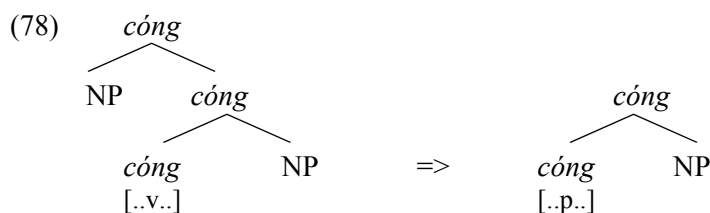
Two points are important here. First, the overall structure has remained constant, i.e. both the adjunct clause with the verb *cóng* and the PP headed by *cóng* occupy the preverbal adjunct position. What *has* changed is the “label”, i.e. the categorial identity of the adjoined constituent, from a clause with a covert subject, whose only visible constituent is the VP, to a PP. Whitman (2000) summarizes this state of affairs in his *Conservancy of structure constraint*:

Reanalysis as relabelling: lexical items change categorial or projection [\pm max, \pm min] features under preservation of hierarchical (c-command) relations.

(Whitman and Paul 2005: 82)

Applied to the concrete case of V-to-P reanalysis at hand, this means that it can only occur in a structural position where both a VP (embedded in a clause with a covert subject) and a PP are acceptable. The preverbal adjunct position is precisely such a position; moreover, as we have seen above (cf. section 3.3), homophonous verbs and prepositions are difficult to tell apart here, which makes the adjunct position a structural context *par excellence* for V-to-P reanalysis.²³

Second, given that PPs are not associated with a subject position, more than just relabelling must occur in reanalysis. More precisely, the subject position must have been “pruned”, i.e. eliminated. V-to-P reanalysis as in the case of *cóng* can thus be represented schematically as follows (cf. Whitman and Paul 2005: 91, [28]):



Crucially, when the verbal head *cóng* is relabelled with the categorial feature [p], the external argument position (i.e. the specifier position) is eliminated as well. Consequently, the resulting PP projection can no longer function as predicate, i.e. it can no longer be selected by *v*. This ties in with the observation above that unlike VPs, PPs cannot be negated or be modified by adverbs nor be selected as complements by auxiliaries (cf. section 3.2 above).

This situation straightforwardly challenges Roberts and Roussou’s (2003: 128–129) claim that deverbal prepositions as a case of lexical reanalysis, i.e. a reanalysis resulting in another lexical and not a functional category, “still” behave as a predicate with relation properties in the sense of Hale and Keyser (1993).²⁴ As a matter of fact, this amounts to ascribing to prepositions the most central function of a verb, i.e. its predicative function. Under their conception it is not clear at all then where and why verbs and prepositions differ, i.e. what the consequences are of that “simple categorial” change; in this respect, Roberts and Roussou’s conception (2003: 128–129) is similar to the *one and a half category*

‘walk by way of small streets’

²³ Another position besides the adjunct position (V1 in the extended VP structure [i]) where V-to-P reanalysis can occur is the complement position (V3 in [i]). These two positions thus sharply contrast with that of the main verb (V2), which cannot be reanalysed as P, given that a preposition cannot be selected by *v* (cf. Whitman and Paul 2005: 92):

(i) [_{VP} [_{adj.clause}..VP₁..] [_{VP} *v* [_{VP2} NP [_{V'} V₂ [_{complement} ...VP₃ ...]]]]]

²⁴ “In other words, the preposition derived out of a verb is still interpreted as a predicate with relation properties in the sense of Hale and Keyser (1993) [...]” (Roberts and Roussou 2009: 128). Note that Roberts and Roussou (2009) content themselves with this claim and do not attempt to test it by comparing the syntactic properties of the deverbal prepositions *le* ‘at’ from Ewe and *wàngu* ‘with’ from Kambera they cite with those of the corresponding verbs, as I have done for the Chinese verb – preposition pairs in the preceding sections.

scenario. However, the Chinese data discussed at length in the preceding sections clearly demonstrate that V-to-P reanalysis implies loss of the predicative function and thereby loss of the external argument position.

3.7. Conclusion

The present chapter has provided extensive evidence in favour of the category preposition as distinct from the category verb, a distinction observable since the earliest attested texts, i.e. the Shang inscriptions (13th c. BC – 11th c. BC). Using a more systematic and updated demonstration, this result confirms the point of view of preceding scholars, among them Chao Yuen Ren (1968) and McCawley (1992). As shown in great detail, a whole set of tests must be applied conjointly in order to lead to a reliable identification as V or P of the item at hand. Very probably it is this lack of a *unique* decisive criterion distinguishing prepositions from verbs that is at the origin of the long controversy concerning their different categorial status.

The existence of the category preposition in Chinese is important in several respects, going well beyond an adequate description of the Chinese grammar itself.

First, it invalidates our preconceived idea that isolating languages such as Chinese display a more reduced inventory of categories than inflecting languages such as Indo-European languages, and thus joins Baker's (2003) point of view that isolating and non-isolating languages do not differ in this respect. In fact, as to be argued for in the next chapter, Chinese not only has prepositions, but also postpositions and in this regard is on a par with for example German, which likewise shows both types of adpositional categories

Second, the Chinese data straightforwardly challenge current assumptions in diachronic syntax. Contrary to Roberts and Roussou's (2003) claim, V-to-P reanalysis as "lexical" reanalysis does *not* differ from the reanalysis of a lexical as a functional item. For prepositions precisely do not retain essential characteristics of the verb source item such as the predicative function; on the contrary, having lost the predicative function as result of the V-to-P reanalysis, prepositions are characterized by the concomitant loss of the external argument position. Consequently, Robert's and Roussou's (2009: 129) assumption about V-to-P reanalysis as only a "preliminary" step to grammaticalization "proper", defined by them as reanalysis resulting in a *functional* item, must be rejected. It is also undermined by the longevity of deverbal prepositions in Chinese (e.g. more than two thousand years in the case of the preposition *cóng* 'from').

Third, the numerous cases of co-existence of verb and preposition (reanalysed from that verb) in modern Mandarin as well as earlier stages of Chinese show that in V-to-P reanalysis, the verb has not "become" or "turned into" a preposition. On the contrary, the verb continues to exist as such and a new preposition with properties distinct from that of the source verb item is *added* to the language. Furthermore, the source item, i.e. the verb, is not affected by the emergence of a new preposition, though it is evidently not excluded that the verb itself undergoes changes and may disappear altogether. In other words, the eventual (later) disappearance of the source item verb turns out to be epiphenominal with respect to its reanalysis as a preposition and can therefore *not* play the role of external "cause" for the emergence of a new deverbal preposition, as claimed by Longobardi's (2001) *Inertial Theory*. (Cf. Walkden 2012 for a critical assessment of Longobardi's *Inertial Theory*.)

Last, but not least, the general assumption that all prepositions in Chinese have a verbal origin cannot be correct. Because for V-to-P reanalysis to apply, the category P and instantiations of it must exist beforehand, i.e. reanalysis cannot *create* new grammatical categories that did not exist before. Van Fintel (1995) addresses this frequent confusion between the emergence of grammatical categories *per se* in the evolution of language and the implementation of these categories by new items as a result of reanalysis from a semanticist point of view. Although he concentrates on reanalyses from lexical to functional categories, his reasoning can be extended to lexical reanalysis. Von Fintel (1995: 185) emphasizes the point that "functional categories and functional meanings are always present" and that "in grammaticalization, the functional system of a language gets richer, although overall no new meanings are created".

References

- Baker, Mark C. (2003). *Lexical categories. Verbs, nouns, and adjectives*. Cambridge: Cambridge University Press
- Chao, Yuen Ren 1968. *A grammar of spoken Chinese*. Berkeley: University of California Press.
- Cheng, Lisa L.-S. and Rint Sybesma (to appear). Mandarin. In *The Handbook of Contemporary Syntax*; Artemis Alexiadou et al. (eds.), Berlin/New York: Mouton De Gruyter.
- Djamouri, Redouane and Waltraud Paul (1997). Les syntagmes prépositionnels en *yu* et *zai* en chinois archaïque. *Cahiers de Linguistique Asie Orientale* 26, 2: 221–248.
[Electronic version available at : <http://crlao.ehess.fr/document.php?id=58>].
- Djamouri, Redouane and Waltraud Paul (2009). Verb-to-preposition reanalysis in Chinese. In *Historical syntax and linguistic theory*; Paola Crisma and Giuseppe Longobardi (eds.), 194–211. Oxford: Oxford University Press.
- Ernst, Thomas 1989. On verb subcategorization in Chinese. In *Proceedings of the Third Ohio State University Conference on Chinese Linguistics (May 13-14, 1988)*, Marjorie Chan and Thomas Ernst (eds.), 116–140. Bloomington, Indiana: Indiana University Linguistics Club.
- von Fintel, Kai (1995). The formal semantics of grammaticalization. In *Proceedings of the 25th Annual Meeting of the North-Eastern Linguistic Society*, Jill Beckman (ed.), vol. 2: 175–189. Amherst, MA: Graduate Linguistic Student Association.
- Guo, Xiliang 郭錫良 (1997). 介詞「于」的起源和發展 Jieci *yu* de qiyuan he fazhan [The origin and development of the preposition *yu*]. 中國語文 *Zhongguo yuwen* 1997, nr. 2: 131–138.
- Guo, Xiliang 郭錫良 (2005). 漢語介詞“于”起源與漢藏語說商榷 Hanyu jieci *yu* qiyuan *yu* hanzang *yu* shuo shangque [On the hypothesis of the Sino-Tibetan origin of the preposition *yu*]. 中國語文 *Zhongguo yuwen* 2005, nr. 4: 341–345.
- Hale, Ken and Samuel J. Keyser (1993). On argument structure and the lexical expression of syntactic relations. In *The view from building 20*; Ken Hale and Samuel J. Keyser (eds.), 53 - 109. Cambridge, MA: MIT Press.
- Hagège, Claude. 1975. *Le problème linguistique des prépositions et la solution chinoise (avec un essai de typologie à travers plusieurs groupes de langues)*. Paris: Société de Linguistique de Paris.
- Huang, C.-T. James (1984). On the distribution and reference of empty pronouns. *Linguistic Inquiry* 15 (4): 531–574.
- Huang, C.-T. James (1987). Existential sentences in Chinese and (In)definiteness. In *The representation of (In)definiteness*; Eric J. Reuland and Alice G.B. ter Meulen (eds.), 226–253. Cambridge, Mass.: MIT Press.
- Huang, C.-T. James, Y.-H. Audrey Li, and Yafei Li 2009. *The syntax of Chinese*. Cambridge: Cambridge University Press.
- Li, Charles N. and Sandra A. Thompson (1974b). Coverbs in Mandarin Chinese: Verbs or prepositions? *Journal of Chinese Linguistics* 2(3): 257–278.
- Li, Charles N. and Sandra A. Thompson (1981). *Mandarin Chinese. A functional reference grammar*. Berkeley: University of California Press.
- Longobardi, Giuseppe (2001). Formal syntax, diachronic minimalism, and etymology: The history of French *chez*. *Linguistic Inquiry* 32 (2): 275–302.
- Lu, Peng (2008). *Les phrases complexes en chinois: les circonstancielles*. Beijing: Waiwen chubanshe (www.flp.com.cn).
- Lü, Shuxiang et al. (eds.) 1980. *Xiàndài hànyǔ bābǎicí* [Eight hundred words of Modern Mandarin]. Běijīng: Shangwu. [Revised edition used here dating from 2000].
- McCawley, James D. 1992. Justifying part-of-speech assignments in Mandarin Chinese. *Journal of Chinese Linguistics* 20 (2): 211–245.
- Mei, Tsu-Lin 梅祖麟 (2004). 介詞“于”在甲骨文和漢藏語裏的起源 Jieci *yu* zai jiaguwen he hanzangyu li de qiyuan [The source of the preposition *yu* in oracle bone inscriptions and in Sino-Tibetan]. 中國語文 *Zhongguo yuwen* 2004, nr. 4: 323–332.
- Ohta, Tasuo (1958). *Chuugokugo rekishi bunpoo* [History of Chinese Grammar]. Tokyo: Hooyu shoten [reprint 1981]

- Pulleyblank, Edwin G. 1995. *Outline of Classical Chinese grammar*. Vancouver: University of British Columbia Press.
- Roberts, Ian and Anna Roussou (2003). *Syntactic Change – A Minimalist Approach to Grammaticalization*. Cambridge: Cambridge University Press.
- Teng, Shou-hsin (1974). Negation in Chinese. *Journal of Chinese Linguistics* 2 (2): 125–140.
- Walkden, George (2012). Against inertia. *Lingua* 122: 891–901.
- Zhang, Cheng (1997). Lùn juéding ‘zài L + VP’ huǒ ‘VP + zài L’ de yīnsù [On the factors determining ‘zài L + VP’ vs. ‘VP + zài L’]. *Yǔyán jiāoxué yǔ yánjiū* [Language teaching and linguistic studies], 1997, nr. 2: 41–50.

4. Postpositions: Trouble maker encore

[June 2013]

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4. Postpositions: Trouble maker encore

Postpositions are another controversial category, in fact even more so as prepositions, and this for two reasons. First, they need to be distinguished from similar looking location nouns. Second, and more importantly, to acknowledge postpositions in addition to prepositions results in a mixed category of adpositions. This makes Chinese look even more “mixed” from a typological point of view as it already is, combining SVO order with a systematically head-final NP. Accordingly, until today most syntacticians do not want to commit themselves and use the traditional Chinese term “localizer” (*fāngwèicí*), if they venture into these realms at all; Cheng and Sybesma (to appear), for example, do not touch this issue at all in their survey article on Chinese syntax. And those who do provide clear evidence for postpositions as an adpositional category distinct from nouns such as Ernst (1988) are quite unhappy with their own conclusion, because it goes against the idea of a consistent order between a head and its complement across categories within a language, underlying the concept of crosscategorical harmony. In other words, Chinese as a VO language should only have prepositions, but no postpositions, because the former, but not the latter select their complement to the right like the verb does. Postpositions are the harmonic type of adposition for OV languages; again, the fact that an OV like German has both postpositions and prepositions is unexpected from the point of view of crosscategorical harmony.

The controversy around postpositions also illustrates once again the bias introduced by concentrating on spatial location, to the detriment of temporal and abstract location, already observed in the discussion of prepositions in the preceding chapter. As soon as the entire range of location is taken into account, e.g. *zhuōzi shàng* ‘table on’ = ‘on the table’, *huìyì shàng* ‘during the conference’, *lǐlùn shàng* ‘in theory’, the analysis of postpositions as “localizers” is no longer viable and their syntactic and semantic differences with respect to location nouns such as *shàngbian* ‘upper side’ becomes evident. Because the latter cannot indicate temporal and abstract location; accordingly, only *zhuōzi shàngbian* ‘the upper side of the table’ is fine (*modulo* the meaning difference with respect to *zhuōzi shàng* ‘on the table’), but **huìyì shàngbian* ‘the upper side of the conference’ and **lǐlùn shàngbian* ‘the upper side of the theory’ are both ungrammatical.

The present chapter gives extensive evidence for postpositions as an adpositional category in Chinese, along with prepositions. Using as starting point the few studies explicitly postulating postpositions in Chinese (cf. Chao 1968: 620–627; Hagège 1975, ch. 3; Peyraube 1980; Ernst 1988), a fairly comprehensive list of postpositions is provided in section 4.1. This list in itself already constitutes an argument in favour of the category postposition, because all types of location (spatial, temporal and abstract) can be expressed, as is typical of adpositions. Section 4.2 discusses two major syntactic arguments against the conflation of postpositions with nouns. First, unlike nouns and like prepositions in Chinese, postpositions always require their complement to be present (*ban on adposition stranding*). Second, nothing can intervene between the postposition and its complement. This also holds for *de* subordinating modifiers to the head noun as in *Lǐsì de zhuōzi* ‘Lisi’s table’ and *zhuōzi (de) shàngbian* ‘the upper side of the table’; the optionality of *de* in examples of the latter type is shown to be due to the relational noun status of location nouns. The distribution of PostPs examined in section 4.3 allows us to identify differences between prepositions and postpositions. Unlike PrePs, PostPs are acceptable in subject position, and can modify all types of nouns, while PreP modifiers are confined to DPs headed by relational nouns.¹ Section 4.4 turns to the hardly explored domain of *Circumpositional Phrases* (CircPs), i.e. complex adpositional phrases containing both a preposition and a postposition, such as *cóng zhuōzi shàng* ‘from table on’ = ‘from the table’. While for this type of CircP indicating spatial location the literature – without further discussion – in general assumes the structure [_{PreP} *cóng* [*zhuōzi shàng*]], in the case of CircPs encoding temporal location such as *cóng míngtiān qǐ* ‘from tomorrow on’, nothing is said about their internal structure and they are treated as a kind of discontinuous constituent noted as *cóng ... qǐ* ‘from...on’. In order to determine the internal structure of these temporal CircPs, it is helpful to go beyond the Chinese case and examine similar cases of CircPs in German, a language which like Chinese has both prepositions and postpositions. It turns out that the hierarchy ‘Path over Place’ observed for German and other languages also holds for

¹ Throughout this chapter, PreP rather than the current abbreviation PP is used for prepositional phrases, in order to facilitate the contrast with PostP.

CircPs in Chinese; the way this hierarchy is implemented, however, is different in spatial vs. temporal CircPs. Section 4.5 concludes the chapter.

4.1. Inventory of postpositions

Since postpositions are rather controversial, it seems necessary to first provide a fairly exhaustive list in order to give the reader an idea what items fall under that category. In addition, simple examples comprehensible without glosses are provided for each postposition in order to highlight the general property holding for adpositions in general, i.e. the ability of indicating spatial, temporal or abstract location. This on its own already presents quite a challenge for the localizer scenario; note for example that when indicating temporal location, postpositions can select a clausal complement (cf. *hòu* ‘after’, *yǐlái* ‘since’ in [1] below), a fact that is difficult to reconcile with their alleged “localizer” status, but can straightforwardly be accounted for when the head in question is an adposition (cf. ch. 3, [1] for clause selecting prepositions).

(1) List of postpositions (= 20)

- hòu* ‘behind; after’:
gāolóu hòu ‘behind the building’; *sān nián hòu* ‘after three years’; *tā zǒu hòu* ‘after he left’
- lái* ‘for, during, over’:
sān tiān lái ‘during three days’; *liǎngqiān nián lái* ‘over [the past] 2000 years’
- lǐ* ‘in, during’:²
fángjiān lǐ ‘in the room’; *jiàqī lǐ* ‘during the vacation’; *diànshì lǐ* ‘on TV’
- páng* ‘next to, by; at the side of’
chítáng páng ‘by the pond’; *cónglín páng* ‘near the forest’
- qǐ* ‘starting from, on’
 [cóng míngtiān] *qǐ* ‘[from tomorrow] on’
- qián* ‘in front of; before’
chuāng qián ‘in front of the window’; *xià yǔ qián* ‘before it rains’
- qiánhòu* ‘in front and behind; around’
fángzi qiánhòu ‘in front of and behind the house’;
chūnjié qiánhòu ‘around the Spring Festival’;
- shàng* ‘on, in, at’:
bào zhǐ shàng ‘in the newspaper’ (spatial and abstract); *lǐlùn shàng* ‘in theory’
- shàngxià* ‘around, about, or so’:
sānshí suì shàngxià ‘about 30 years’; *líng dù shàngxià* ‘around zero degree’
- wài* ‘outside, beyond’:
chuāngzi wài ‘outside the window’; *sān gōnglǐ wài* ‘more than 3 km away’
- xià* ‘under’
yuèguāng xià ‘under the moonlight’; *zhè zhǒng tiáojiàn xià* ‘under these conditions’
- yǐhòu* ‘later, after’ (temporal only)
sān tiān yǐhòu ‘three days later’; *xià yǔ yǐhòu* ‘after it had rained’

² The postposition *zhōng* ‘in’, the equivalent of *lǐ* in a more formal register, is not included here.

- yǐlái* ‘since’
[*tā dào zhōngguó*] *yǐlái* ‘since he came to China’
- yǐnèi*³ ‘within; less than’
sān tiān yǐnèi ‘within three days’; *wúshí rén yǐnèi* ‘less than fifty persons’
- yǐqián* ‘ago, before’:
sān nián yǐqián ‘three years ago’; *tā dào zhōngguó yǐqián* ‘before he came to China’
- yǐshàng* ‘above, over’:
xuěxiàn yǐshàng ‘above the snowline’; *liùshí fēn yǐshàng* ‘over sixty points’
- yǐwài* ‘beyond’:
cháng chéng yǐwài ‘beyond the Great Wall’; *sān tiān yǐwài* ‘beyond three days’
- yǐxià* ‘under, below’:
dìmiàn yǐxià ‘under the ground’; *yī gōngchǐ yǐxià* ‘under one meter’
- zhījiān* ‘between’
wǒmen zhījiān ‘between us’; *yī diǎn hé sān diǎn zhījiān* ‘between one and three o’clock’
- zuǒyòu* ‘left and right of; around, about’
tiělùxiàn zuǒyòu ‘left and right of the railway line’; *sānshí suì zuǒyòu* ‘around thirty years’

Before turning to the detailed discussion of postpositions, note the existence of the adverbs *qiánhòu* ‘from beginning to end; altogether’, *shàngxià* ‘from top to bottom’, *yǐhòu* ‘afterwards, later’, *yǐqián* ‘before, previously’, *yǐshàng* ‘above’, *yǐxià* ‘below, from now on’, some of which are illustrated below:

- (2) a. *Tā qiánhòu zhǐ lái yī-cì*
3SG altogether only come-EXP 1 -time
‘Altogether he only came once.’
- b. *Ta qùnián lái -guo, yǐhòu zài méi jiàn-guo ta*
3SG last.year come-EXP afterwards again NEG see -EXP 3SG
‘He visited last year, afterwards I have not seen him anymore.’
- c. *Yǐqián wǒmen bìng bù rènshi*
before 1PL at.all NEG know
‘Before, we didn’t know each other at all.’

These adverbs should not be mistaken as cases of the homophonous postposition lacking a complement. For as to be illustrated in section 4.2.2 below, postpositions – like prepositions – always require their complement and therefore do not allow for “stranding”.

Given that the list of items under (1) looks straightforward enough, the non-sinologist might be somewhat surprised by the still controversial status of postpositions, which in general are treated as nouns (cf. Y.-H. Audrey Li 1990, McCawley 1992) or as a hybrid category “deviate of N” (cf. Huang, Li and Li 2009: 17). By contrast, linguists knowing Chinese and/or having been exposed to the Chinese grammatical tradition will come up very readily with the following points, which at first sight blur the rather clear picture presented in (1): many postpositions have a “nominal origin”, i.e. have been reanalysed from nouns, and allegedly “still” retain traces of this nominal origin; (2) many postpositions have a “disyllabic counterpart” which shows nominal properties, such as *shàngbian* ‘upper side’ for *shàng* ‘on’, *xiàbian* ‘underside’ for *xià* ‘under’ etc.

³The postposition *nèi* ‘in, within’ is used in the written language and certain fixed expressions only (cf. Lü Shuxiang et al. 1980: 413).

In fact, Ernst (1988) already addressed the latter issue for the three postpositions *shàng* ‘on’, *xià* ‘below’ and *lǐ* ‘in’ and provided two conclusive tests that distinguish them from the “corresponding” location nouns *shàngbian* ‘upper side’, *xiàbian* ‘underside’, and *lǐbian* ‘inside’. First, like prepositions, postpositions always require an overt complement (cf. [3a]). Second, nothing can intervene between the postposition and its complement, and accordingly, the item *de* subordinating modifier phrases to the head noun is excluded here as well (cf. [4a]). Location nouns such as *shàngbian* ‘upper side’, by contrast, can occur on their own (cf. [3b]) and also allow for the presence of the subordinator *de* (cf. [4b]); in this respect they pattern with nouns in general where modifiers are subordinated to the head noun by *de*, as in *Lǐsì de shū* ‘Lisi SUB book’ = ‘Lisi’s books’.

- (3) a. *Shū zài [PostP *(zhuōzi) shàng]*
 book be.at table on
 ‘The books are on the table.’
- b. *Shū zài [NP (zhuōzi) shàngbian]*
 book be.at table upper.side
 ‘The books are on top (of the table).’
- (4) a. *[PostP zhuōzi (*de) shàng]*
 table SUB on
 ‘on the table’
- b. *[NP zhuōzi (de) shàngbian]*
 table SUB upper.side
 ‘the upper side of the table’

In other words, the items commonly presented in the literature as monosyllabic or disyllabic variants of the same “localizer” class turn out to instantiate two different categories, postpositions *shàng* ‘on’, *xià* ‘below’, *lǐ* ‘in’ etc. on the one hand, and location nouns *shàngbian* ‘upper side’, *xiàbian* ‘underside, bottom’, *lǐbian* ‘inside’ etc. on the other.⁴ The fact that the location nouns are compounds, where the “same” postposition element features as modifier of the nominal head *-bian* ‘side’, viz [_N *xià-bian*] ‘below-side’ = ‘underside’ has been mistaken as clue for the categorial identity between location nouns and postpositions.⁵

Given that Ernst only examines three postpositions and does not take into account the cases of temporal and abstract location expressed by these postposition (e.g. *lǐlùn shàng* ‘in theory’, *jiàqī lǐ* ‘during the holidays’, *zhè zǒng tiáojiàn xià* ‘under these conditions’), in the following I demonstrate that Ernst’s (1988) tests can be applied to all types of postpositions, irrespective of the type of location (spatial, temporal or abstract). These tests – in combination with other observations – then allow and force us to distinguish postpositions from location nouns (*contra* Y.-H. Audrey Li 1990, McCawley 1992, Huang, Li and Li 2009: chapter one, among others). As the list in (1) shows, postpositions can be monosyllabic or disyllabic; consequently, to proceed as Peyraube (1980: 78) does and to analyse

⁴ Although in the Chinese grammatical tradition, postpositions and location nouns alike are called “localizers” (*fāngwèicí*), this does not prevent good grammar manuals to observe differences between the two, even though these are presented as properties of individual items. For example, Lǚ Shuxiang et al (1980: 424) stress the fact that unlike *pángbiān* ‘side’, *páng* ‘at the side of, next to’ cannot be used on its own and does not allow for the subordinator *de* to intervene:

(i) *chítáng (de)pángbiān* vs. (ii) *chítáng (*de)páng*
 pond SUB side pond SUB near
 the side(s) of the pond ‘next to/by the pond’

In other words, while *pángbiān* ‘side’ is a noun, *páng* is a postposition and the preceding phrase its complement, whence the unacceptability of *de*.

⁵ Other nouns entering into the composition of location nouns are *miàn* ‘surface’ and *tóu* ‘head’, resulting in *xià-miàn*, *xià-tóu* ‘underside’, *shàng-miàn*, *shàng-tóu* ‘upper side’ etc. Note that location nouns headed by *-tòu* exclusively belong to the spoken language. In the remainder of this chapter, the form ‘X-*biān*’ is chosen for representing location nouns.

only monosyllabic items such as *shàng* ‘on’, *xià* ‘under’, *lǐ* ‘in’ as postpositions leads to an only partially correct picture. Again, this can be explained by the fact that Peyraube (1980) concentrates on spatial location and leaves aside temporal and abstract location.

4.2. Postpositions vs. nouns

4.2.1. The (un)acceptability of the subordinator *de*⁶

Let us first address the (un)acceptability of *de* illustrated in (4a) and (4b): while postpositions behave like prepositions in that nothing – neither *de* nor any other element – can intervene between the adpositional head and its complement, location nouns as a subclass of nouns are evidently compatible with *de*.⁷ The optionality of *de* observed in (4b) and not further commented on by Ernst (1988) is due to their status of being relational nouns, on a par with kinship terms, nouns denoting certain institutions (e.g. *xuéxiào* ‘school’, *gōngsī* ‘company’, *guó* ‘country’) etc.⁸

- (5) *tā (de) māma / mèimèi*
3SG SUB mother/younger.sister
‘his mother/younger sister’
- (6) *wǒmen (de) jiā / xuéxiào / gōngsī*
1PL SUB home/school/ company
‘our home/school/company’

All these nouns have in common that they imply a “possessor”, i.e. one is always the mother or sister with respect to somebody else. Accordingly, when the possessor is not spelt out, it is implicitly present; this explains why a location noun such as *shàngbian* ‘upper side’ is always interpreted as the upperside of a given object, known to speaker and hearer or mentioned in the preceding discourse. As illustrated by the English translation of (3b), repeated here in (7), this likewise holds for location nouns in English:⁹

- (7) *Shū zài [NP (zhuōzi) shàngbian]*
book be.at table upper.side
‘The books are on top (of the table).’

Relational nouns thus contrast with “ordinary” nouns for which *de* is obligatory in the presence of modifiers:

⁶ For a number of recent (but very divergent) proposals for *de*, cf. a.o. Cheng and Sybesma (2009), Y.-H. Audrey Li (2007, 2012, to appear), Paul (2012, to appear), Simpson 2001, C.-C. Jane Tang (2007), Niina Ning Zhang (2010), and references therein.

⁷ As Huang, Li and Li (2009: 16) state themselves, the unacceptability of *de* intervening between a postposition and its complement presents a problem for their assumption that so-called “localizers” (L) are a subclass of nouns, nouns precisely allowing for *de*: “The question, then, is how to account for the lack of *de* if L is viewed as a type of N. It should be obvious that some stipulation is unavoidable in order to allow L to be N but still different from N. To this effect, we hypothesize that a language may allow a (natural) subclass of words in a given category X to ‘deviate’ behaviorally from X.” Huang, Li and Li (2009: 17) therefore characterize postpositions as “deviates” of N, where “[i]n deciding the properties of a categorial deviate, anything language-specific in the original category is disfavored.” [...] “Interestingly, the use of *de* is also highly language-specific. [...] As a result, L[ocalizer] keeps all the syntactic properties of N except *de*.”

⁸ As well-established in the literature, languages differ in which nouns are considered as relational nouns, notwithstanding a kind of “hard core” membership including e.g. kinship terms. For further discussion of relational nouns in Chinese, cf. a.o. Niina Ning Zhang (2009) and references therein.

⁹ Note, though, that the conditions for the optionality of *de* depend on the type of relational noun, i.e. on the type of possessor inherently associated with the noun in question. For kinship terms, *de* is optional only with personal pronouns (for some speakers exclusively with singular pronouns), whereas for location nouns the possessor can also be an NP.

- (8) a. *Wǒmen *(de) shū / qìchē/qián*
 1PL SUB book/ car / money
 b. *ta *(de) shǒujī / gùshi/māo*
 1SG SUB mobile.phone/story/ cat
 ‘his mobile phone/story/cat’

It is thus the special status of location nouns *qua* relational nouns and the ensuing optionality of *de* that leads to the surface similarity of two different structures: an NP where the modifier phrase and the head noun are simply juxtaposed, on the one hand: [NP XP N_{Loc}], and a PostP where the complement precedes the postpositional head: [PostP XP Postp], on the other.¹⁰

Once again, as soon as we go beyond the case of spatial location, the situation is more straightforward, because the differences between postpositions on the one hand, and location nouns, on the other, are very clear. For in addition to NP complements, postpositions denoting temporal or abstract location may select clausal complements (TP). This fact again distinguishes postpositions from nouns, because the complement clause of a noun head such as *xiāoxi* ‘news’ in (9) must be subordinated to the latter by *de*, whereas for postpositions the presence of *de* is precisely excluded:

- (9) [_{DP} [_{TP} *Liú Xiáobō dé Nuòbèi’ěr jiǎng*] **(de) xiāoxi*]
 Liu Xiaobo obtain Nobel prize SUB news
 ‘the news that Liu Xiaobo obtained the Nobel prize’
 (10) [_{PostP} [_{TP} *Tā kǎoshàng dàxué*] **(de) yǐhòu*] *dàjiā dōu hěn gāoxìng*
 3SG enter university SUB after everybody all very happy
 ‘After he succeeded entering the university, everybody was happy.’

In this respect, postpositions behave like prepositions, which in addition to NPs can also select clauses as complements:

- (11) [_{PreP} *Zìcóng* [_{TP} *tā líkāi Běijīng*]], *wǒmen yīzhí méi jiàn miàn*
 since 3SG leave Beijing 1PL always NEG see face
 ‘Since he left Beijing, we haven’t met anymore.’ (Lü et al. 1980: 695)

4.2.2. Ban on postposition stranding

As already pointed out in the preceding chapter on prepositions (cf. section 3.4 above), many languages do not allow for the complement of a preposition to be empty. In fact, the same holds for postpositions, in Chinese and in other languages, e.g. English (cf. **(two days) ago/later*):¹¹

- (12) a. *Wǒ [_{PostP} [_{NP} *xīn-nián*] [_{PostP°} *yǐqián*]] yào huí jiā yī-tàng,*
 1SG new-year before want return home 1-time

¹⁰ Following current practice in the literature, the term NP is used here not only for simple noun phrases such as *shū* ‘book’, but as a cover term for nominal projections in general, i.e. proper names (*Lǐsì*), modified NPs (*Lǐsì de shū* ‘Lisi’s book’, *hěn guì de shū* ‘very expensive books’), and quantified NPs (*hěn duō shū* ‘many books’, *sān běn shū* ‘3 CL book’ = three books) etc. When presenting a structural analysis, where more precision is asked for, both the terms NP and *Determiner Phrase* (DP) are used. The term DP was introduced by Abney (1987) in order to capture the fact that in nominal projections with an article or a demonstrative pronoun such as *that book*, *the students* it is in fact *that* or *the* instantiating the functional category *Determiner* that head the projection and select the noun phrase as complement. Since then, numerous additional functional categories have been posited below the *Determiner* projection (cf. a.o. Scott 1998, 2002a,b and the papers in Cinque 2002). For the purposes of this book, I use the term DP for nominal projections containing the subordinator *de* or a demonstrative pronoun (*zhè* ‘this’, *nà* ‘that’); otherwise the label NP in its extended coverage is used. For further discussion of the architecture within the nominal projection of Chinese, cf. Y.-H. Audrey Li (1998, 1999) and Huang, Li and Li (2009, chapter 8).

¹¹ Note that Huang, Li and Li (2009) do not mention the ban on adposition stranding at all.

tā yě yào [_{PostP} [_{NP} *(*xīn-nián*)] [_{PostP} *yǐqián*]] *zǒu*
 1SG also want new-year before leave
 ‘I want to go home before the New Year; he also wants to leave before the New Year.’

- b. *Miǎnfèi bǎoguǎn sān-tiān*, [_{PostP} [_{NP} *(*sān-tiān*)] *yǐwài*] *zhuóshōu bǎoguǎn-fèi*
 free storage 3-day 3-day beyond collect storage -fee
 ‘The free storage is three days, beyond three days there is a storage fee.’

The complements of the postposition in the second conjunct *xīn-nián* ‘New year’ (5a) and *sān-tiān* ‘three days’ (5b) are recoverable from the preceding context, but stranding of the postpositions *yǐqián* ‘before’ (a temporal locative) and *yǐwài* ‘beyond, besides’ (an abstract locative) is blocked. This confirms the general validity of the ban on postposition stranding, first observed by Ernst for the spatial locative with *shàng* ‘on’ (cf. [5a] above), irrespective of the type of locative (spatial, temporal or abstract) and the mono- or disyllabic nature of the postposition involved.

The latter fact also challenges an analysis of localizers as clitics (cf. Liu Feng-hsi 1998, Zhang Niina Ning 2002), where the observed syntactic constraint ruling out stranding is presented as a consequence of the phonological requirement that clitics always need a host to attach to. The phonological form of disyllabic postpositions in itself certainly does not warrant their analysis as clitics, as witnessed by the phonological autonomy of the corresponding homophonous adverbs such as *yǐqián* ‘previously, in former times’, *yǐhòu* ‘later, afterwards’ which are perfectly fine in the sentence-initial position, i.e. in a position without any element to “lean on”:

- (13) *Yǐqián wǒmen bìng bù rènshi* (= [2c] above)
 before 1PL at.all NEG know
 ‘Before, we didn’t know each other at all.’

Postpositions cannot be stranded by movement of their complement, e.g. relativization ([14b] and [15b],) or topicalization ([14c] and [15c]), either:

- (14) a. [_{TP} [_{PostP} [*nà liàng qìchē*] *shàng*] *pā-zhe yī zhī māo*]
 that CL car on lie-DUR 1 CL cat
 ‘There is a cat lying on the car.’
 b. * [_{DP} [_{TP} [_{PostP} [*e*] *shàng*] *pā-zhe yī zhī māo*] *de* [*nà liàng qìchē*]]
 on lie-DUR 1 CL cat SUB that CL car
 (‘the car that a cat is lying on’)
 c. * [_{TopP} [*Nà liàng qìchē*], [_{TP} [_{PostP} [*e*] *shàng*] *pā-zhe yī zhī māo*]]
 that CL car on lie-DUR 1 CL cat
 (‘That car, a cat is lying on.’)
- (15) a. [_{TP} *Wǒ xiǎng* [_{PostP} [*nèi ge dìqū*] *yǐwài*] *mei yǒu xuéshēng zhù*]
 1SG think that CL district beyond NEG exist student live
 ‘I don’t think there are any students living beyond that district.’
 b. * [_{DP} [_{TP} [_{PostP} [*e*] *yǐwài*] *mei yǒu xuéshēng zhù*] *de nèi ge dìqū*]
 beyond NEG exist student live SUB that CL district
 (‘*that district where there are no students living beyond’)
 c. * [_{TopP} [*Nèi ge dìqū*] [_{TP} *wǒ xiǎng* [_{PostP} [*e*] *yǐwài*] *mei yǒu xuéshēng zhù*].
 that CL district 1SG think beyond NEG exist student live
 (‘That district, I don’t think there are any students living beyond.’)

Again, both monosyllabic and disyllabic postpositions disallow stranding and thus pattern with prepositions (cf. ch. 3 above).

By contrast, location nouns *qua* relational nouns allow for the possessor to remain implicit, whose identity is then established from the linguistic or extra-linguistic context:

- (16) a. $[_{TP} [_{NP} [Nà \ liàng \ qìchē] \ shàngbiān] \ pā-zhe \ yī \ zhī \ māo]$
 that CL car upper.side lie-DUR 1 CL cat
 ‘There is a cat lying on top of that car.’
- b. $[_{DP} [_{TP} [_{NP} [e] \ shàngbiān] \ pā-zhe \ yī \ zhī \ māo] \ de \ [nà \ liàng \ qìchē]]$
 upper.side lie-DUR 1 CL cat SUB that CL car
 ‘that car on top of which a cat is lying’
- c. $[_{TopP} [Nà \ liàng \ qìchē], [_{TP} [_{NP} [e] \ shàngbiān] \ pā-zhe \ yī \ zhī \ māo]$
 that CL car upper.side lie-DUR 1 CL cat
 ‘That car, a cat is lying on (its) top.’

In the relativization and topicalization structure in (16b) and (16c), it is *nà liàng qìchē* ‘that car’ that provides the reference for the implicit possessor present in the NP headed by *shàngbiān* ‘upper.side’ and the resulting structure is acceptable. This is similar to the situation in (17a) with kinship terms: here the explicitly mentioned possessor *wǒ* ‘I’ in the NP headed by *bàba* ‘father’ provides the identity for the implicit possessor of *māma* ‘mother’ in the second conjunct.

- (17) *Wǒ bàba huílái -le , [_{NP} [e] māma] yě huílái -le*
 1SG father return -PERF mother also return -PERF
 ‘My father returned, and my mother returned, too.’

The ban on adposition stranding confirms the distinction established between location nouns and postpositions; while the former allow for an implicit possessor, the latter always require an overt complement, even if it is easily retrievable, because contained in the same sentence.

To summarize the results obtained in this section, the confusion between postpositions and location nouns is due to two factors: (i) the optionality of *de* with location nouns leading to the surface similarity of two different structures: $[_{PostP} \text{XP } shàng]$ and $[_{NP} \text{XP } shàngbiān]$, (ii) and the lack of controlling for the associated differences in meaning. It suffices to examine a few postposition - location noun pairs to see them: *shū shàng* ‘in the book’ (cf. *shū shàng de gùshi* ‘book on SUB story’ = ‘the story in the book’) vs. *shū shàngbiān* ‘the upper side of the book’ (cf. **shū shàngbian de gùshi* ‘book upper.side SUB story’); *bào zhǐ shàng* ‘in the newspaper’ (spatial and abstract locative) vs. *bào zhǐ shàngbian* ‘the upper side of the newspaper’. Accordingly, the common practice adopted by the proponents of the nominal analysis of postpositions to treat postpositions and “corresponding” location nouns as quasi-synonyms is not correct at all. Last, but not least, the “counterpart” in form of the location noun – modulo the semantic differences – only exists in the case of the spatial locative, but not for postpositions indicating temporal and abstract location, another point completely neglected in the literature and which has considerably biased the analysis of postpositions.

4.3. The distribution of PostPs

As illustrated in the preceding chapters, only arguments are allowed in postverbal position in Mandarin. Adjuncts occur exclusively preverbally, to the right or to the left of the subject. Previous research on postpositions focuses on PostPs expressing spatial location, but below I provide data exemplifying all three types of location: spatial, temporal and abstract. We shall see that the type of location plays a role in the distribution of adjunct PostPs. Concerning argument PostPs, their (un)acceptability in the subject position of various constructions corroborates their being distinct from nouns and also highlights differences with respect to the other adpositional category, i.e. prepositions.

4.3.1. Adjunct PostPs

In the sentence-initial topic position to the left of the subject, PostPs of all types are acceptable, encoding spatial (cf. [18]), temporal (cf. [19]) or abstract location (cf. [20]):

- (18) *[PostP Zhuōzi shàng], nǐ kěyǐ fàng shū, [PostP yǐzi shàng] nǐ kěyǐ fàng dàyī*
 table on 2SG can put book chair on 2SG can put coat
 ‘On the table, you can put the books, and on the chair, you can put the coat.’
- (19) a. *[PostP [Jǐ ge yuè] yǐqián] tā jiù qù Shànghǎi le*
 several CL month before 3SG then go Shanghai PART
 ‘Several months ago, he went to Shanghai.’
 b. *[PostP [Jīn -nián nián-chū] yǐlái], tā yǐjīng chū -le sān-cì chāi*
 this-year year-beginning since 3SG already go.out-PERF 3 -time errand
 ‘Since the beginning of this year, he has already been three times on business trips.’
- (20) *[PostP Yuánzé shàng] nǐmen kěyǐ zhèyàng zuò*
 principle on 2PL can this.way do
 ‘In principle you can do it this way.’ (Ernst 1988: 229, (19))

In the preverbal position to the right of the subject, temporal or abstract location (including abstract means) can be expressed by PostPs (cf. [21a] to [21c]):

- (21) a. *Tā [PostP [jǐ -ge yuè] yǐqián] jiù qù Shànghǎi le*
 3SG several-CL month before then go Shanghai PART
 ‘He went to Shanghai several months ago.’
 b. *Tā [PostP jīn -nián nián-chū] yǐlái] yǐjīng chū -le sān-cì chāi*
 3SG this-year year-beginning since already go.out-PERF 3 -time errand
 ‘He has already been on business trips three times since the beginning of this year.’
 c. *Nǐmen [PostP yuánzé shàng] kěyǐ zhèyàng zuò*
 2PL principle on can this.way do
 ‘You can in principle do it this way.’

However, spatial PostPs in this position are limited to a goal or directed motion interpretation:

- (22) a. *Nǐ [PostP wòshì lǐ] bù néng fàng diànlú*
 2SG bedroom in NEG can put electric.stove
 ‘You cannot put an electric stove into the bedroom.’
 b. *Bù yào ràng tāmen tīngjiàn, zǎnmen [PostP yuánzi lǐ] shuō qù*
 NEG want let 3PL hear 1PL garden in talk go
 ‘We don’t want them to overhear us, let’s go to the garden and talk.’

In other words, in order to indicate “place where” a PreP headed by *zài* ‘in, at’ is required:

- (23) *Tā [PreP zài [PostP zhuōzi xià]] / * [PostP zhuōzi xià] kàndào -le yī -zhī lǎoshǔ*
 3SG at table under table under see -PERF 1 -CL mouse
 ‘He saw a mouse under the table.’

Huang, Li and Li (2009:13-14) use the unacceptability of a spatial PostP in the position between the subject and the verb as an argument against analysing PostPs as adpositions. Instead, they set up a special category *Localizer*, “a deviate of N” (2009: 21). Citing the data in (24), they argue, “If L[ocalizer] were a postposition, there would be no reason why it should not behave like one, and its

presence in (11b) [= (24b)] would be enough to introduce the nominal *chéng* ‘city’ just like *outside* does in English.”¹²

(24) a. *Tā *(zài) nàge chéngshì jǔbàn -guo yī ge zhǎnlǎnhuì*
 he P that city hold -GUO a CL exhibition
 ‘He held an exhibition *(in) that city.’

b. *Tā *(zài) chéng wài / lǐ jǔbàn -guo yī ge zhǎnlǎnhuì*
 he P city outside/ inside hold -GUO a CL exhibition
 ‘He held an exhibition outside/inside the city.’

(= Huang, Li and Li 2009: 13; [11a-b]); their glosses and translation)

However the Localizer analysis is too crude to capture the complete distribution. For adjunct PostPs denoting temporal and abstract location are very well acceptable in the preverbal position to the right of the subject, a fact overseen by Huang, Li and Li (2009: 13), who do not provide any other example besides (24).¹³

Furthermore, as (22) illustrates, spatial PostPs are not excluded from the preverbal position, but instead of encoding the place where the event takes place they indicate the endpoint of a motion. Examining more closely the exact position of the spatial PostPs in (22), we see that this PostP in fact is not an adjunct, but the location argument of the verb *fāng* ‘put’ which has raised to the position above negation and auxiliaries. The argument status of a preverbal spatial PostP is better visible in (25) where the PostP is the only argument of the verb *zuò* ‘sit (down)’:

(25) a. *Nǐ [PostP yǐzi shàng] zuò, wǒ [PostP dèngzi shàng] zuò*
 2SG chair on sit sit 1SG stool on sit
 ‘You sit on the chair, I sit on the stool.’

b. *Nǐ zuò yǐzi shàng, wǒ zuò dèngzi shàng*
 2SG sit chair on 1SG sit stool on
 ‘You sit on the chair, I sit on the stool.’

The argument PostP can either remain in postverbal position or be fronted to the right of the subject.

The same holds for a place noun such as *chéngshì* ‘town, city’ which requires the preposition *zài* ‘at’ when playing the role of an adjunct indicating the place where the event occurred, as in Huang, Li and Li’s example (24a), but not when it has argument status and is fronted to the preverbal position above negation and auxiliaries:

(26) a. *Tā [nà ge chéngshì] hái méi qù -guo*
 3SG that CL town still NEG go-EXP
 ‘He hasn’t been to that town yet.’

b. *Tā hái méi qù -guo [nà ge chéngshì]*
 3SG still NEG go-EXP that CL town
 ‘He hasn’t been to that town yet.’

¹² In fact, *chéngwài* ‘suburbs’ and *chénglǐ* ‘(inner) city’ in (24b) are compound nouns (N°), not postpositional phrases (cf. Lü Shuxiang et al. 1980: 360 for additional N-*lǐ* compounds). This is shown by the fact that they can be embedded in larger compounds, e.g. *chénglǐrén* ‘city dweller’. Furthermore, being a bound morpheme, *chéng-* cannot occur on its own e.g. as a modifier subordinated to the head noun by *de*, in contrast to *chénglǐ*:

(i) *Hé zài [N° chénglǐ] de nánfāng*
 river be.in city SUB south
 ‘The river is to the south of the (inner) city.’

(i) **Hé zài chéng de nánfāng*
 river be.at city SUB south

¹³ An analysis of postpositions as “deviates of N” cannot account for the ban on postposition stranding and the unacceptability of *de*, either (cf. sections 4.2.1 and 4.2.2 above).

By contrast, the default position for an adjunct indicating spatial location is to the right of negation and/or auxiliaries and it must then be encoded as a PreP:

- (27) *Nǐ bù néng [PP *(zài) [PostP wòshì lǐ] fàng diànlú*
 2SG NEG can at bedroom in put electric.stove
 ‘You cannot put an electric stove in the bedroom.’

Accordingly, the observation made by Huang, Li and Li (2009: 21) for (24a) applies to the encoding of spatial location phrases in general: when arguments, they have the form of NP (cf. [26]) or PostP (cf. [22a]) and can be fronted to preverbal position (above negation and auxiliaries), but when assuming the role of adjunct (“place where”) and occupying the position to the right of the subject, spatial location phrases must be encoded as PreP, where the preposition either selects an inherently locative noun such as *chéngshì* ‘city, town’ in (24a) or a PostP such as *zhuōzi xià* ‘table under’ in (23).

To summarize, adjunct PostPs expressing spatial, temporal or abstract location display the same distribution as adjunct PPs (modulo the constraint for spatial location just discussed) and can occur preverbally to the left and the right of the subject.

4.3.2. Argument PostPs

When selected as argument by a verb, a PostP occurs in the postverbal position. In this respect PostPs are again on a par with PrePs, which display the same adjunct – argument asymmetry (cf. section 3.4.2 above).

- (28) *Tā [V^o zǒu -jìn]-le [PostP jiàoshì lǐ]*
 3SG walk-enter -PERF classroom in
 ‘He entered the classroom.’
- (29) *Tā de gùshi [V^o dēng -zài]-le [PostP bàozhǐ shàng]*
 3SG SUB story publish-be.at -PERF paper on
 ‘His story got published in the newspaper.’
- (30) *Tā yīxià [V^o tiào -dào]-le [PostP wǔ mǐ yǐwài]*
 3SG 1 time jump-reach -PERF 5 meter beyond
 ‘He directly jumped further than 2 m.’
- (31) *Tā zhǐ néng ná [PostP liùshí fēn yǐshàng]*
 3SG only can obtain sixty point above
 ‘He can only obtain a little over sixty points.’

As the position of the perfective aspect suffix *-le* indicates, in (28) to (30), the verbs *dào* and *zài* – homophonous with the prepositions *dào* and *zài* – are part of the verbal compound. Accordingly, sentences (28) to (30) indeed involve PostPs in object position, and not PrePs.

Unlike VP-internal complement position, the subject position allows us to distinguish between PrePs and PostPs on the one hand, and PostPs and DPs on the other.

PostPs occur in the subject position of locative inversion sentences like (32), and of existential, presentative sentences with either the verb *yǒu* ‘exist’ (cf. [33a] and [33b]),¹⁴ or the copula *shì* ‘be’ (in combination with an adverb of universal quantification, cf. [34]).

¹⁴ Existential *yǒu* ‘exist, there is’ as an unaccusative verb is distinct from the transitive verb *yǒu* ‘have, possess’:

(i) *Tā yǒu sān-liàng qìchē*
 3SG have 3 -CL car
 ‘He has three cars.’

- (32) [_{PostP} *Chēzi shàng*] *pā-zhe yī zhī māo*
 car on lie-DUR 1 CL cat
 ‘On the car is lying a cat.’
- (33) a. [_{PostP} *Wūzi lǐ*] *yǒu hěn duō rén*.
 room in have very much people
 ‘There are many people in the room.’
- b. [_{PostP} *Zhèngwén yǐwài*] *hái yǒu liǎng ge fùlù*
 text.body beyond still have 2 CL annex
 ‘Beyond the text itself, there are also two annexes.’
- (34) [_{PostP} *Shān -pō shàng*] *quán shì lǐzishù*
 mountain-slope on all be chestnut.tree
 ‘All over the mountain slope there are chestnut trees.’

The acceptability of toponyms (e.g. *Běijīng*) and inherently locative nouns (e.g. *zhè ge dìfāng* ‘this place’) including location nouns such as *shàngbiān* ‘upper side’ indicates that the subject in these constructions must denote a place. Accordingly, nouns that do not inherently denote a location (e.g. *wūzi* ‘room’, *chēzi* ‘car’, *shānpō* ‘mountain slope’) are unacceptable here (cf. [37a] – [37c]), unless they are embedded in a PostP as in (32) – (34).

- (35) [_{DP} *Beijing/zhè ge dìfāng*] *yǒu hěn duō rén*
 Beijing/this CL place have very much people
 ‘There are many people in Beijing/in this place.’
- (36) [_{NP} *shàngbiān*] *pā-zhe yī zhī māo*
 upper.side lie-DUR 1 CL cat
 ‘On top lies a cat.’
- (37) a. *_{[NP} *Wūzi*] *yǒu hěn duō rén*
 room have very much people
- b. *_{[NP} *Chēzi*] *pā-zhe yī zhī māo*
 car lie-DUR 1 CL cat
- c. *_{[NP} *Shān -pō*] *quán shì lǐzishù*
 mountain-slope all be chestnut.tree

In contrast to PostPs, PrePs are unacceptable in the locative inversion construction and the existential construction with *yǒu* ‘have’:

- (38) a. *_{[PreP} *Zài chēzi shàng*] *pā-zhe yī zhī māo*
 at car on lie-DUR 1 CL cat
- b. *_{[PreP} *Zài wūzi lǐ*] *yǒu hěn duō rén*.
 at room in have very much people

Similarly, while PostPs are acceptable as subjects of adjectival predicates, PrePs are disallowed in this position:

- (39) [_{PostP} *wūzi lǐ*] / *_{[PreP} *zài wūzi lǐ*] *hěngānjìng*.
 room in / at room in very clean
 ‘It is very clean in the room.’

- (40) [_{PostP} Lúzi qián] /*[_{PreP} zài lúzi qián] hěn nuǎnhuo¹⁵
 stove in.front.of/ at stove in.front.of very warm
 ‘It is very warm in front of the stove.’

Finally, sentences with the copula *shì* allow us to distinguish between DPs, PostPs, and PrePs. Nominal subjects are of course completely acceptable; PostPs are of marginal or variable acceptability (marked as #), depending on the speaker, while PrePs are completely unacceptable:

- (41) [_{NP} Bìlú] shì jiālì zuì nuǎnhuo de dìfāng
 fire.place be home most warm SUB place
 ‘The fire place is the warmest place in our home.’
- (42) #[_{PostP} Lúzi qián] shì zuì nuǎnhuo de dìfāng
 stove in.front.of be most warm SUB place
 ‘In front of the stove is the warmest place.’
- (43) #Yào shuì jiào, [_{PostP} xīngkōng xià] shì zuì hǎo de dìfāng
 want sleep sleep star under be most good SUB place
 ‘If you want to sleep, under the stars is the best place.’
 (=based on Y.-H. Audrey Li 1990:30; [29c])
- (44) *[_{PreP} Zài lúzi qián] shì zuì nuǎnhuo de dìfāng
 at stove in.front.of be most warm SUB place
 (‘In front of the stove is the warmest place.’)

Y.-H. Audrey Li (1990: 4, 30) considers data of the type illustrated in (39), (42) and (43) and their contrast with the corresponding unacceptable sentences containing a PreP in subject position as confirming the nominal status of postpositions, thus obtaining a neat dichotomy between NP, on the one hand, and postpositional and prepositional phrases, on the other. This can, however, not account for the judgement differences observed for PostP subjects (cf. [42] and [43]) and NP subjects (cf. [41]) in copula sentences. Similarly, while it is correct that the subject in locative inversion and in existential/presentative sentences must denote a place and accordingly allows both for inherently locative nouns and PostPs, this does not imply that the latter are nominal as well; on the contrary, the ban on postposition stranding and the unacceptability of *de* between the complement and the postpositional head clearly argue for their adpositional status. (For further discussion of the contrast between PostPs and PrePs cf. section 4.4 below.)

¹⁵ There is an alternative parsing of (40) available for some speakers leading to its acceptability:

- (i) [_{TopP} [_{PreP} Zài lúzi qián] [_{TP} pro hěn nuǎnhuo]]
 at stove in.front.of very warm
 ‘In front of the stove, we are warm/it is warm.’

When embedded in a relative, however, the *zài* PreP cannot be construed as occupying topic position, and the sentence is ungrammatical:

- (ii) *[_{DP} [_{PreP} Zài lúzi qián] hěn nuǎnhuo de nà jiān fáng] shì kètīng
 at stove in.front.of very warm SUB that CL room be living.room
 ‘The room where it is very warm in front of the stove is the living room.’

Similarly, some speakers can parse the sentence-initial PreP in the existential construction with *yǒu* (cf. [38a] above) as occupying the topic position and then accept sentences of the format in (iii):

- (iii) [_{TopP} [_{PreP} Zài wūzi lǐ] [_{TP} yǒu hěn duō rén]]
 at room in have very much people
 ‘In the room there are many people.’

Most speakers, however, analyse the sentence-initial PreP as the subject and accordingly reject the sentence:

- (iv) *[_{TP} [_{PreP} Zài wūzi lǐ] yǒu hěn duō rén]
 at room in have very much people

Summarizing, both PrePs and PostPs may appear in postverbal position when selected as argument by a verb. PostPs may occur as the subjects of locative inversion, adjectival, and marginally of copular predicates, whereas PrePs are disallowed in these positions.

4.3.3. PostPs as NP modifiers

To complete the overview of the distribution of PostPs, let us examine the acceptability of PostPs as modifier phrases in the nominal projection, more precisely in the DP, given the obligatory presence of the subordinator *de*.

- (45) *[_{DP} [_{PostP} Cāochǎng shàng / wūzi lǐ] de rén] dōu shì tā de xuéshēng*
 sports.ground on / room in SUB person all be 3SG SUB student
 ‘The people on the sports ground/in the house are all her students.’
- (46) *[_{DP} [_{PostP} Wǔ diǎnzhōng yǐhòu] de dìtiě], rén tài duō*
 5 o’clock after SUB subway person too much
 ‘The subway after five o’clock, there are too many people.’
- (47) *Wǒ bù xǐhuān [_{DP} [_{PostP} bā diǎnzhōng yǐqián] de kè]]*
 1SG NEG like 8 o’clock before SUB class
 ‘I don’t like classes before 8 o’clock.’
- (48) *Zhè shì [_{DP} [_{PostP} luóji shàng] de cuòwù]*
 this be logic on SUB mistake
 ‘This is a logical error.’
- (50) *[_{DP} [_{PostP} xuéxiào lǐ] de guānxi]*
 school in SUB relation
 ‘the relations within the school’
- (51) *[_{DP} [_{PostP} luóji shàng] de guānxi]*
 logic on SUB relation
 ‘logical relations’
- (52) *[_{DP} [_{PostP} lǐlùn shàng] de máodùn]*
 theory on SUB contradiction
 ‘theoretical contradictions’

PostP modifiers are compatible with non-relational nouns (cf. [45] – [48]) and relational nouns (cf. [50] – [52]) alike. In this respect, they clearly differ from PrePs which are only acceptable as modifiers of relational nouns (cf. [53] – [55]):

- (53) *[_{DP} [_{PreP} gēn Lǐ xiānshēng] de guānxi]*
 with Li Mr. SUB relation
 ‘the relation with Mr. Li’
- (54) *[_{DP} [_{PreP} guānyú Chomsky] de kànfǎ]*
 concerning Chomsky SUB opinion
 ‘the opinions about Chomsky’
- (55) *[_{DP} [_{PreP} duì Lǐ xiānshēng] de tàidu]*
 towards Li Mr. SUB attitude
 ‘the attitude towards Mr. Li’

- (56) *_{[DP [PreP duì Lǐ xiānshēng] de huà]}
 towards Li Mr. SUB word
 (‘the words towards to Mr. Li’)
- (57) *_{[DP [PreP cóng Běijīng] de rén]}
 from Beijing SUB person
 (‘a person from Beijing’)
- (58) *_{[DP [PreP gēn gǒu] de xiǎohái]}
 with dog SUB child
 (‘the child with the dog’)

Examples such as (53) – (55) show that Y.-H. Audrey Li’s (1990: 5) general ban on PreP modifiers: *_[PP de N] is too strong, because valid for DPs headed by non-relational nouns only.¹⁶ Note in passing that this restricted acceptability of PreP modifiers in DPs provides another argument against the verbal status of prepositions, given that relative clauses are not sensitive to the (non-) relational character of the head noun:

- (59) a. _{[DP [TP Tā [PreP duì Lǐ xiānshēng] shuō] de huà]}
 3SG towards Li Mr. talk SUB word
 ‘the words he addressed to Mr. Li’
- b. _{[DP [TP [PreP cóng Běijīng] lái] de xuéshēng]}
 from Beijing come SUB student
 ‘the students coming from Beijing’

To summarize the discussion of the distribution of PostPs, we have seen that PostPs display the same argument – adjunct asymmetry as PrePs and NPs, i.e. only PostPs subcategorized for as argument by the verb can occur in postverbal position

Concerning the subject position of locative inversion construction and existential/presentative sentences, PrePs are excluded here, whereas PostPs and inherently locative nouns are acceptable. Finally, when embedded as modifier in a DP, PostPs again pattern with NPs and contrast with PrePs, because the latter are only acceptable as modifiers of relational nouns. It is probably this distributional parallel between PostPs and NPs which is at the origin of the nominal analysis of postpositions commonly assumed in most of the literature. However, as demonstrated in great detail above, a nominal analysis cannot account for the two major syntactic differences between nouns and postpositions, viz. the unacceptability of the subordinator *de* between a postposition and its complement and the ban on postposition stranding, nor does it do justice to the meaning differences observed between (location) nouns and postpositions. An explanation of why in certain respects PostPs pattern with (location) NPs and contrast with PrePs is provided in the following section on circumpositional phrases.

4.4. Circumpositional Phrases

Circumpositional Phrases (CircP) are complex adpositional phrases (AdP) containing both a preposition and a postposition, such as *zài zhuōzi xià* ‘at table under’ = ‘under the table’ already encountered above (cf. [23]).¹⁷ In the literature they are in general noted as e.g. *zài.....xià* and *de facto*

¹⁶ Ernst (1988: 239, footnote 10) also challenges the overall ban against PreP modifiers and provides the following examples, but does not notice that the pattern is limited to relational nouns:

- (i) *duì guójiā de rè’ài*
 towards country SUB love
 ‘love of (one’s) country’
- (ii) *guānyú zhè jiàn shì de wèntí*
 about this CL matter SUB problem
 ‘the problem with this matter’

¹⁷ In the following, *adpositional phrase* (AdP) is used as a cover term for PrePs, PostPs and CircPs.

considered a “discontinuous” constituent whose inner hierarchical structure is simply left open. In other words, there is hardly any discussion about the very basic question whether the structure to be adopted is [_{PreP} Prep [_{PostP} XP Postp]] or rather [_{PostP} [_{PreP} Prep XP] Postp].¹⁸ As becomes evident from the ensuing discussion, the answer to this at first sight simple question is not always straightforward and makes it necessary to go beyond the Chinese case and to inquire about the constraints governing the expression of spatial relations across languages. These general inquiries also shed light on several observations made in the course of this chapter and which so far have not been elucidated. In this context, the comparison with German, a language which like Chinese has both prepositions and postpositions, turns out to be particularly profitable.

4.4.1. Path vs. Place

In the previous sections, postpositions were shown not to be nouns, but to instantiate the category *adposition*, along with prepositions. However, there also emerged a number of specific differences between prepositions and postpositions. In this section these differences are accounted for by using the dichotomy ‘Path vs. Place’, equivalent to the dichotomy ‘Location vs. Direction’ well-known from the literature on spatial expressions since Jackendoff (1990), van Riemsdijk (1990) and others.

In an insightful discussion, Svenonius (2007) observes that Chinese prepositions denote Path, while postpositions denote Place; Svenonius also notices that postpositions form a closer bond with their NP complement than prepositions. In the articulated AdP structure developed by Svenonius (2007) and later work (cf. a.o. the papers in Cinque and Rizzi 2010), a projection headed by adpositions denoting Path dominates a projection denoting Place, as illustrated in (60):

- (60)
- | | | |
|-------------|---------------|--------------|
| PathP | | |
| Path | PlaceP | |
| <i>cóng</i> | | |
| from | NP | Place |
| | <i>zhuōzi</i> | <i>shàng</i> |
| | table | on |
- ‘from the table’ (cf. [61] below)

- (61) *Māo cóng zhuōzi shàng tiàoxiàlai -le*
 cat from table on jump.down-PERF
 ‘The cat jumped down from the table.’
- (62) *Tā dào fángzi lǐ qù-le*
 3SG to house in go-PERF
 ‘He went into the house.’

While the association of Place with the postpositions *shàng* ‘on’ and *lǐ* ‘in’ etc. and that between the prepositions *cóng* ‘from’ and *dào* ‘to’ with Path looks straightforward enough, the many instances where the preposition *zài* ‘at’ selects a PostP (cf. [63] – [66] below) seem at first sight not to fit into that pattern. For *zài* appears to denote Place, rather than Path. (Note that Svenonius [2007] does not discuss the apparent contradiction between the meaning of *zài* ‘at’ and his analysis of *zài* as Path.)

- (63) *Tā [PreP zài [PostP pībāo lǐ]] fàng -le tài duō dōngxi*
 3SG at handbag in put -PERF too much thing
 ‘He put too many things in the handbag.’

¹⁸ Liu Danqing (2004: 171–173) is a notable exception, using the constituency test [_{PostP} *zhuōzi xià*] ‘table under’ vs. *[[_{PreP} *zài zhuōzi*] ‘at table’] to obtain the structure [_{PreP} *zài* [_{PostP} *zhuōzi xià*]] (cf. section 4.4.1 immediately below). He is also one of the few authors acknowledging the existence of both prepositions and postpositions in Chinese, without discussing the evidence for their adpositional status, though. Note that Liu Danqing (2004: 144–145) includes elements which are not adpositions, such as *bǎ* (an alleged preposition; cf. section 2.2.2 above) and the subordinator *de* (an alleged postposition).

- (64) *Wǒmen* [_{PreP} *zài* [_{PostP} *jiérì* *lǐ*]] *bù shàng bān*
 1PL at holiday in NEG go work
 ‘We do not work on holidays.’
- (65) *Tāmen měi -tiān* [_{PreP} *zài* [_{PostP} *dìtiě shàng*]] *jiàn miàn*
 3PL every -day at subway on see face
 ‘They meet in the subway every day.’
- (66) *Tā* [_{PreP} *zài* [_{PostP} *lǐlùn shàng*]] *shuō de duì*
 3SG at theory on speak DE correct
 ‘She was right theory-wise.’

Zài is also the most ubiquitous preposition in CircPs, where the exact position is specified by the postposition (*lǐ* ‘in’ vs. *shàng* ‘on’ vs. *xià* ‘under’ etc.), not by *zài* ‘at’. On the other hand, it is clear that *zài* heads the CircP, [_{PreP} *zài* [_{PostP} XP Postp]], because the well-formedness of the CircP depends on the satisfaction of the selectional requirements of *zài*. More precisely, nouns inherently denoting place such as *huǒchēzhàn* ‘railway station’, *lǐbiān* ‘inside’ and toponyms (e.g. *Tiān’ānmén* and *Běijīng*) can be directly selected by *zài*, while inherently non-locative nouns (including abstract and temporal nouns such as *lǐlùn* ‘theory’ and *jiérì* ‘holiday’) must be embedded in a PostP, which in turn can function as the place complement of *zài* (cf. [67] – [70]). The same selectional requirements also hold for the prepositions *cóng* ‘from’ (cf. [71] – [73]) and *dào* ‘to’ (cf. [74]) in CircPs denoting spatial and abstract location, thus confirming the analysis in (60): [_{PreP} *cóng/dào* [_{PostP} XP Postp]]:

- (67) *Tā zài* [_{NP} *lǐbian*] / [_{PostP} *pínbāo *(lǐ)*] *fàng -le tài duō dōngxi*
 3SG at inside/ handbag in put -PERF too much thing
 ‘He put too many things inside/ in the handbag.’
- (68) *Tāmen měi-tiān zài* [_{PostP} *dìtiě *(shàng)*] / *Tiān’ānmén jiàn miàn*
 3PL every day at subway on / Tian’anmen see face
 ‘They meet in the subway/at Tian’anmen every day.’
- (69) *Wǒmen zài* [_{PostP} *jiérì *(lǐ)*] *bù shàng bān*
 1PL at holiday in NEG go work
 ‘We do not work on holidays.’
- (70) *Tā zài* [_{PostP} *lǐlùn *(shàng)*] *shuō de duì*
 3SG at theory on speak DE correct
 ‘She was right theory-wise.’
- (71) *Māo cóng* [_{NP} *shàngbiān*] / [_{PostP} *zhuōzi *(shàng)*] *tiàoxiàlai -le*
 cat from upper.side / table on jump.down-PERF
 ‘The cat jumped down from above / from the table.’
- (72) *Tā cóng* [_{NP} *Běijīng*] / [_{NP} *huǒchēzhàn*] / [_{PostP} *yuànzi *(lǐ)*] *huílái -le*
 3SG from Beijing/ station / courtyard in come.back-PERF
 ‘He has come back from Beijing/the station/the courtyard.’
- (73) *Nǐmen yīnggāi cóng* [_{PostP} *gōngzuò *(shàng)*] *kǎolǚ*.
 2PL need from wok on think
 ‘You have to think about it from the point of view of the work.’
- (74) *Tā dào* [_{NP} *Běijīng*] / [_{NP} *lǐbiān*] / [_{PostP} *fángzi *(lǐ)*] *qù-le*
 3SG to Beijing/ inside/ house in go-PERF
 ‘He went to Beijing/ inside/ into the house.’

Given *zài*'s ubiquity in CircPs and its minimal semantic import, *zài* 'at' can be considered a functional preposition (cf. Djamouri/Paul/Whitman 2009, 2013) that selects a PlaceP, as do the prepositions *cóng* and *dào*. Consequently, in the CircPs headed by *zài*, *cóng* and *dào*, the PlaceP is always the lower projection. *Modulo* the special status of *zài* 'at', these CircPs thus involve the hierarchy 'Path over Place' observed for CircPs in many other languages (cf. a.o. van Riemsdijk 1990, Svenonius 2007, Cinque and Rizzi 2010 and references therein).

The special status of *zài* nicely ties in with the observation made in section 4.3.1 above that a spatial locative adjunct to the right of the subject cannot be expressed by a mere PlaceP (i.e. inherently locative noun or PostP), but must be encoded as a CircP headed by *zài* 'at':

- (75) *Tā* [_{PreP} *zài* [_{PostP} *zhuōzi xià*]] /*[_{PostP} *zhuōzi xià*] *kàndào-le yī zhī lǎoshǔ* (= [23])
 3SG at table under / table under see -PERF 1 CL mouse
 'He saw a mouse under the table.'

Recall that temporal and abstract location adjuncts in the same position are not subject to this constraint, nor does this constraint hold for the sentence-initial topic position to the left of the subject, where PostPs indicating all three types of location are acceptable.

Differences among prepositions are also well-known for other languages, and the term *functional preposition* has been employed here as well, although with a different coverage. Cinque (2010: 4) divide prepositions into two classes: "simple" prepositions such as *at*, *to*, and *from*, which they consider to be *functional prepositions*, and "complex" prepositions such as *in front of*, *under*, *inside* etc. They observe for Italian that most complex prepositions can – and sometimes must – be followed by a functional one (*a* 'at, to' or *di* 'of'), as in the case of *accanto* 'beside':

- (76) *accanto* *(*a*) *noi*
 next at/to us
 'beside us'

Van Riemsdijk (1990) assigns the special status of functional adposition to postpositions in CircPs in German, for they are able to encode dimensions not expressed by lexical adpositions, such as the movement towards (cf. the prefix *her-*) or away (*hin-*) from a point of reference, which is generally the speaker:

- (77) *der Weg in das Tal hinunter / herunter*
 the way in the valley down[-proximal]/down[+proximal]
 'the way down into the valley' (where the speaker is on the hill in the case of *hinunter* and down in the valley in the case of *herunter*)

This is in fact the exact opposite of Chinese where in a CircP headed by *zài* 'at' the precise semantics is provided by the PostP, not by the functional preposition *zài*. In other words, while the motivation underlying these and other studies is the same, i.e. the intention to capture the observed differences between (classes of) prepositions, the special functional status assigned to certain prepositions and the properties associated with that status are not identical and seem to vary across languages.¹⁹

Against this background, I would like to propose that prepositions in Chinese by default indicate Path and consequently must select a PlaceP as complement, not another PathP, in accordance with the 'Path over Place' hierarchy. This explains why in Chinese prepositions may not select another PrepP, i.e. a PathP.²⁰

¹⁹ For Déchaine (2005), all prepositions instantiate a lexical category. She proposes to capture the observed differences among prepositions by the dichotomy between "light" and "full" (lexical) prepositions, on a par with the distinction between "light verbs" (*do*, *make*) and "full" lexical verbs.

²⁰ Comparatives seem to be the only exception, for *bǐ* 'compared to' and *gēn* 'with, as' may select PrepPs:

(i) *Tā* [_{PreP} *duì nǐ*] *bǐ* [_{PreP} *duì wǒ*] *gèng qíguài*
 3SG towards 2SG BI towards 1SG even.more bizarre

- (78) a. *_{[PreP cóng [PreP zài [cūnzi lǐ]]]}
 from at village in
 b. *_{[PreP zài [PreP cóng[cūnzi lǐ]]]}
 at from village in
- (79) *_{[PreP cóng [PreP yánzhe hébiàn]]}
 from along riverside
- (80) a. *_{[PreP Chule [PreP gēn dàrén]] xiǎohái bù néng zuò diàntí}
 except with adult child NEG can sit lift
 b. _{[PreP Chule [TP pro [PreP gēn dàrén] zài yīqǐ]}, xiǎohái bù néng zuò diàntí
 except with adult be together child NEG can sit lift
 ‘Except when accompanied by an adult, children are not allowed to take the lift.’
- (81) a. *_{Tāmen [PreP yīnwèi [PreP líle lǐngdài] jiù bù néng jìnqù}
 3PL because without tie then NEG can enter
 b. _{Tāmen [PreP yīnwèi [TP pro bù chuānlǐngdài] jiù bù néng jìnqù}
 3PL because NEG wear tie then NEG can enter
 ‘Because they don’t wear a tie, they cannot go in.’

As illustrated in (80) and (81), in order to render the intended meaning, the second PreP must be embedded in a clause, which in turn serves as complement of the first preposition. Note that the interdiction based on the ‘Path over Place’ hierarchy to select a PreP complement holds for prepositions in general, including those which cannot be straightforwardly associated with Path or Place, given that their meaning is not related to location in space, such as *gēn* ‘with’, *yīnwèi* ‘because’, *líle* ‘without’ etc.

4.4.2 CircPs expressing temporal location – with a short excursion into German

So far the discussion has focused on CircPs indicating spatial and abstract location. Let us now turn to CircPs encoding temporal location and examine how the ‘Path over Place’ hierarchy formulated in terms of spatial location is implemented here. Unfortunately, the general linguistics literature – including the recent book by Cinque and Rizzi (2010) – does not provide much guidance here, because mostly concentrating on spatial location. As for the literature on Chinese, the situation is worse, because even an otherwise extremely comprehensive and detailed work such as Chao (1968) does not include temporal postpositions such as *yǐlái* ‘since’, *qǐ* ‘starting from’, *yǐhòu* ‘after’ etc. when discussing postpositions in general, let alone CircPs featuring these postpositions.²¹

Let us first examine the CircP *cóng XP qǐ* ‘from XP on’.

- (82) *Cóng míngtiān qǐ, wǒ kāishǐ xīn de gōngzuò*
 from tomorrow on 1SG start new SUB work
 ‘From tomorrow on, I start a new job.’

‘He acts even more strangely with you than with me.’

- (ii) *Tā [PreP duì nǐ] gēn [PreP duì wǒ] yīyàng qíguài.*
 3SG towards 2SG GEN towards 1SG equally bizarre
 ‘He is as bizarre with you as with me.’

One might adopt Lin Jowang’s (2009) analysis, where *bǐ* is not a preposition, but the head of a Degree phrase shell, which itself is adjoined to the Adjectival Phrase. The head Degree° can then either select NPs or PrePs.

²¹ To be precise, Chao’s (1968) index mentions *yǐqián* ‘before’ and *yǐhòu* ‘after, later’ referring the reader to pages 119 and 549, where sentence types and time words are examined.

In fact, the English CircP *from XP on* and its German equivalent *von XP an* present the same problem with respect to their internal hierarchical structure as the Chinese case. Accordingly, the constituency to be adopted, viz. $[_{PostP}[_{PreP} \textit{cóng} \textit{XP}] \textit{qǐ}]$, $[_{PostP}[_{PreP} \textit{from} \textit{XP}] \textit{on}]$ and $[_{PostP}[_{PreP} \textit{von} \textit{XP}] \textit{an}]$ is based on the same test in the three languages, i.e. the non-existence of $[_{NP} \textit{qǐ}]$, $[_{XP} \textit{on}]$ and $[_{XP} \textit{an}]$ as independent constituents:

- (83) **míngtiān qǐ, wǒ kāishǐxīn de gōngzuò*
tomorrow on 1SG start new SUB work

- (84) a. $[_{PostP}[_{PP} \textit{from tomorrow}] \textit{on}]$
b. **tomorrow on*

- (85) a. $[_{PostP}[_{PreP} \textit{von morgen}] \textit{an}]$
from tomorrow on
b. **morgen an*
tomorrow on

The analysis in terms of $[_{PostP}[_{PreP} \textit{Prep} \textit{XP}] \textit{Postp}]$ is confirmed by the unacceptability of (86) where *cóng* ‘from’ has been replaced by *zìcóng* ‘since’; like *since* in English, *zìcóng* ‘since’ only selects a point in time situated in the past and is therefore incompatible with *míngtiān* ‘tomorrow’:²²

- (86) * $[_{PostP}[_{PreP} \textit{zìcóng míngtiān}] \textit{qǐ}]$
since tomorrow on
*‘since tomorrow on’

By contrast, *cóng* ‘from’ does not impose a similar constraint and accordingly, *cóng XP qǐ* can refer to a point in the past, present or future, again like *from XP on* in English (*modulo* the use of *since* when referring to the past):

- (87) *Cóng {qùnián /xiànzai/ míngtiān} qǐ, wǒ jiù bù chōu yān le*
from last.year / now / tomorrow on 1SG then NEG inhale smoke SFP
‘Since last year, I have stopped smoking.’
‘From now/tomorrow on, I won’t smoke any more.’

This contrast between *cóng* and *zìcóng* can be straightforwardly accounted for if the NP is the complement of the preposition and must therefore satisfy its selectional restriction. If, however, the structure $[_{PreP} \textit{cóng/zìcóng} [_{PostP} \textit{NP qǐ}]]$ were posited, the contrast would be very difficult to explain, because as just illustrated in (87), *qǐ* ‘starting from’ can combine with NPs referring to the past, present and future.

Given that the open interval expressed by the postposition *qǐ* ‘starting from, on’ can be assimilated to Path, and the starting point of the interval encoded by the *cóng* PreP to Place, we observe the same ‘Path over Place’ hierarchy as in the cases involving spatial or abstract location.

However, as the attentive reader may have noticed, this leads to an apparent contradiction concerning the status of the preposition *cóng* ‘from, since’, which in the spatial locative CircPs (e.g. $[_{PreP} \textit{cóng} [_{PostP} \textit{zhuōzi shàng}]]$ ‘from table on’ = ‘from the table’; cf. [61]) assumes the role of Path and therefore selects the Place PostP as its complement. This situation clearly forces us to distinguish between spatial location, on the one hand, and temporal location, on the other. In other words, ‘Path’ as the default function for Chinese prepositions holds for spatial location only, because when dominated by a Path indicating adposition in temporal CircPs, the PreP is “relegated” to indicating Place or point in time, respectively. Again this is not specific to Chinese, but also is also observed in other languages.

²² This is important because some speakers marginally accept ‘NP *qǐ*’ as in *míngtiān qǐ* ‘(from) tomorrow on’.

In English, for example, *from* shows the same two roles as *cóng* ‘from’ in Chinese, depending on whether the AdP in question indicates a spatial or temporal location. In *[from [behind the house]]*, *from* clearly indicates Path, and *behind the house* denotes Place; in *[[from tomorrow] on]*, however, *on* denotes the open interval corresponding to Path, while *from tomorrow* encodes a point in time corresponding to Place.

Van Riemsdijk and Huijbregts (2007: 18, footnote 19) observe a similar situation for German where the same preposition indicates either Path or Place, depending on whether it occurs on its own or embedded in a CircP. As illustrated in (88), the preposition *an* ‘at, to’ requires a complement in the dative case when indicating Place, but accusative case for Path:

- (88) a. *Er sitzt oft [PreP an dem Flussufer]*
 he sits often at the_{DAT} riverside
 ‘He often sits at the riverside.’
 b. *Er geht oft [PreP an das Flussufer]*
 he goes often at the_{ACC} riverside
 ‘He often goes to the riverside.’

When the Prep headed by *an* ‘at, to’ is selected as the complement of a Path postposition such as *entlang* ‘past’, however, this PreP can indicate Place only, as witnessed by the unacceptability of the accusative here:

- (89) *Er geht oft [PostP [PreP an dem /*das Flussufer] entlang] spazieren*
 3SG go often at the_{DAT}/ the_{ACC} riverside along stroll
 ‘He often strolls along the riverside.’

Again, the ‘Path over Place’ hierarchy remains valid, while the function of a given preposition itself may oscillate between Path and Place depending on the context (cf. [88]).

For the CircPs discussed so far, the internal structure can be determined rather easily, because the postposition in question cannot form a constituent with the preceding NP. By contrast, CircPs of the form *zìcóng* XP *yǐlái* ‘from XP since’ = ‘since XP’ are less straightforward, because both sequences *[PreP zìcóng XP]* (90b) and *[PostP XP yǐlái]* (90c) are well-formed:

- (90) a. *Zìcóng [NP jīnnián niánchū] yǐlái tā yǐjīng chū-le sān cì chāi*
 from this.year beginning since 3SG already exit-PERF 3 time business.trip
 ‘Since the beginning of this year, he has already been three times on business trips.’
 b. *Zìcóng {[NP jīnnián niánchū] / [TP tā shàng-le daxué]}*
 from this.year beginning/ 3SG go -PERF university
 wǒ jiù méi shōudào tā de xìn
 1SG then NEG receive 3SG SUB letter
 ‘Since the beginning of the year/ Since he entered university,
 I haven’t had any mail from him.’
 c. *{[NP jīnnián niánchū] / [TP tā dào zhōngguó]} yǐlái*
 this.year beginning/ 3SG arrive China since
 ‘since the beginning of this year/ since he came to China’

However, taking a closer look at the selectional restrictions, we see that *yǐlái* ‘since’ is not compatible with a time span such as *sān-nián* ‘three years’, but requires a point in time. This point in time can take on the form of an NP, a clause or a PreP, all the three of which represent possible complements of *yǐlái* ‘since’.²³ *Yǐlái* is thus the exact opposite of the postposition *lái* ‘during, for’ which selects an XP

²³ This is different from Liu Danqing (2004: 172) who on the basis of one example extends the structure proposed for spatial location CircPs to the temporal CircP, thus obtaining *[PreP cóng [PostP XP yǐlái]]*.

indicating a time span (91a) and which is incompatible with XPs indicating a point in time, be it a clause (91b), PreP or NP (91c):

- (91) $[_{PostP} [sān\ nián] \text{ *}yǐlái / lái] \ tā \ měi \text{ -}tiān\ zǎoshàng \ liàn \ tàijíquán$
 3 year since/ during 3SG every-day morning practise taijiquan
 ‘For three years now he has been practising *taijiquan* every morning.’
- b. $[_{TP} \text{ Wǒ } [_{PostP} [_{TP} \text{ pro } dào \ zhōngguó] \ yǐlái / *lái]$
 1SG arrive China since/ during
 $jiù \ méi \ chī\ guo \ yī \ cì \ xīfàn$
 then NEG eat-EXP 1 CL Western.food
 ‘Since I arrived in China, I haven’t even once eaten Western style food.’
- c. $[_{PostP} [_{PreP/NP} (cóng) \ jīnnián \ niánchū] \ yǐlái / *lái]$
 from this.year beginning since/ during

Again, as in the case of $[_{PostP} [_{PreP} \text{ cóng } XP] \ qǐ]$, the postposition denoting an open interval, i.e. *yǐlái* ‘since’ heads the CircP and selects the preceding phrase expressing a point in time (NP, PreP or clause) as its complement, in accordance with the ‘Path over Place’ hierarchy.

Yìhòu ‘after’ is another temporal postposition selecting either an NP, a clause or a PreP. Like *yǐlái* ‘since’ it denotes an open interval and therefore is the head of the CircP in the presence of a PreP complement, i.e. we obtain the structure $[_{PostP} [_{PP} \text{ zìcóng } XP] \ yìhòu]$:²⁴

- (92) $[_{PostP} \text{ Wǔyuèfèn } / [_{TP} \text{ tā } bān \ jiā] \ yìhòu] \ wǒ \ jiù \ méi \ shōudào \ tā \ de \ xìn$
 May / 3SG move home after 1SG then NEG receive 3SG SUB letter
 ‘Since May/since he moved, I haven’t had any letters from him.’
- (93) $[_{PostP} [_{PP} \text{ Zìcóng } [_{TP} \text{ tā } shàng \ dàxué]] \ yìhòu] \ wǒmen \ yīzhí \ méi \ jiàn \ miàn$
 since 3SG go university after 1PL always NEG see face
 ‘Since he entered university, we haven’t met anymore.’

Last, but not least, it is important to point out that the case of CircPs with *zài* is different insofar as it is always *zài* that is the head here, irrespective of whether the CircP indicates spatial, temporal or abstract location. This is due to *zài*’s special status as a functional preposition outlined in the preceding section. Consequently, temporal PostPs such as *XP yǐqián* ‘before XP’ and *cóng XP yìhòu* ‘after XP’ pattern with spatial location PostPs and can be the subject of an adjectival predicate and function as modifier of non-relational nouns (cf. sections 4.3.2 and 4.3.3 above); by contrast, $[_{PreP} \text{ zài } [_{PostP} \text{ XP } yìhòu]$ as a PreP is precisely excluded from these positions:

- (94) a. $[_{TP} [_{PostP} \text{ Shǔjià } yǐqián] \ tèbié \ máng]$
 summer.vacation before especially busy
 ‘It is very busy before the summer vacation.’
- b. $*[_{TP} [_{PreP} \text{ Zài } [_{PostP} \text{ shǔjià } yǐqián]] \ tèbié \ máng]$ ²⁵
 at summer.vacation before especially busy

²⁴ Recall from the list of postpositions given in (1) (cf. section 4.1 above) that *yìhòu* ‘after’ and *yǐqián* ‘before’ indicate temporal location only, whereas *hòu* ‘behind, after’ and *qián* ‘in front of, before’ can denote both spatial and temporal location.

²⁵ As noted for example (40) in section 4.3.2 above, under a parsing where the *zài* PreP occurs in topic position and where the subject remains implicit, (94b) can be acceptable:

(i) $[_{TopP} [_{PreP} \text{ Zài } [_{PostP} \text{ shǔjià } yǐqián]] [_{TP} \text{ pro } tèbié \ máng]$
 at summer.vacation before especially busy
 ‘Before the summer vacation, we are very busy/this place is very busy.’

- (95) a. *Tā hái jìde* [_{DP} [_{PostP} [_{PreP} *zìcóng fùmǔ lí hūn*] *yǐhòu*]
 3SG still remember since parents separate marriage after
de tōngkǔ jīnglì]
 SUB painful experience
 ‘He still remembers the hard time after his parents had divorced.’
- b. **Tā hái jìde* [_{DP} [_{PreP} *zài* [_{PostP} *fùmǔ lí hūn yǐhòu*]
 3SG still remember at parents separate marriage after
de tōngkǔ jīnglì]
 SUB painful experience
- c. *Tā hái jìde* [_{DP} [_{PostP} *fùmǔ lí hūn yǐhòu*]
 3SG still remember parents separate marriage after
de tōngkǔ jīnglì]
 SUB painful experience

Recall that PrePs are only acceptable as modifiers of relational nouns, while PostPs are not subject to this constraint.

4.4.3 “From here to eternity”: *cóng* XP *dào* YP²⁶

The preceding discussion has demonstrated the importance of the dichotomy Path vs. Place and the hierarchy ‘Path over Place’ as determining factor for the analysis of AdPs. Importantly, this hierarchy can also shed light on the structure of the AdP *cóng* XP *dào* YP ‘from XP to YP’. While linguists in China have always been puzzled by its special properties distinguishing it from “orthodox” PrePs, in particular its ability to function as subject, to my knowledge it has not attracted any attention elsewhere and no formal analysis has been provided. The AdP ‘*cóng* XP *dào* YP’ is either considered a quasi serial verb construction (Xing Fuyi 1980), a special type of conjoined structure with both *cóng* and *dào* as conjunctions (Yu Daguang 1980, Zhu Jun 2010), or assigned the status of a PreP, whose internal structure is, however, not spelt out and noted simply as ‘*cong...dao...*’ (cf. Zhang Wenzhou 1980). The analysis I would like to propose and which was briefly alluded to in section 3.3 above is one where the preposition *dào* ‘to, until’ is the head, and where the *cong* PreP as its modifier occupies the specifier position, leading to the following structure: [_{dàoPreP} [_{congPreP} *cóng* XP] *dào* YP]:

- (96) [_{dàoPreP} [_{congPreP} *Cóng* [_{TP} *pro kāishǐ shàng xué*]] *dào*(*-le) *xiànzài*]
 from start attend school to -PERF now
Xiǎohuá yǐzhí chéngjī hěn hǎo
 Xiaohua always result very good
 ‘From when she started school until now, Xiaohua has always had very good results.’
 (Lü Shuxiang et al. 1980: 130)

Note that as indicated in (96) and holding for all instances of *dào* ‘to, until’ in combination with the *cóng* PreP, *dào* is incompatible with the aspectual suffix *-le* and therefore clearly a preposition here, thus contrasting with the verb *dào* ‘arrive’ allowing for *-le* (cf. the discussion in chapter 3.3 above).

- (97) *Tāmen měi -tiān* [_{dàoPreP} [_{congPreP} *cóng bā diǎn*] *dào liù diǎn*] *shàngbān*
 3PL every -day from 8 o’clock to 6 o’clock attend work
 ‘They work every day from 8 o’clock to 6 o’clock.’
- (98) [_{dàoPreP} [_{congPreP} *cóng* [_{TP} *pro bù huì*]] *dào* [_{TP} *pro huì*]] (Zhu Jun 2010: 74)
 from NEG know to know
 ‘from not knowing to knowing’

²⁶ *From here to eternity* refers to the (irresistable) title of Fred Zinneman’s 1953 award-winning movie based on a novel of the same name by James Jones.

- (99) a. [_{dàoPreP} [_{congPreP} *Cóng sùshè*] *dào xiào ménkǒu*] *fēicháng ānjīng*
 from dormitory to school entrance extremely quiet
 ‘It is extremely quiet from the dormitories to the school entrance.’
 (Xing Fuyi 1980: 346)
- b. {[_{PostP} *Wūzi lǐ*]/*[_{PreP} *zài wūzi lǐ*]} *fēicháng ānjīng* (= [39] above)]
 room in / at room in extremely quiet
 ‘It is very quiet in the room.’
- (100) [_{dàoPreP} [_{congPreP} *Cóng Shànghǎi*] *dào Hángzhōu*] *shì yībǎibāshíjiǔ gōnglǐ*
 from Shanghai to Hangzhou be 189 km
 ‘It is 189 km from Shanghai to Hangzhou.’ (Zhang Wen-Zhou 1980: 175)
- (101) a. *Tā tǎoyàn* [_{DP} [_{dàoPreP} [_{congPreP} *cóng bā diǎn*] *dào shí diǎn*] *de kè*]
 3SG dislike from 8 o’clock to 10 o’clock SUB class
 ‘He dislikes classes from eight to ten o’clock.’
- b. *Wǒ bù xǐhuān* [_{DP} [_{PostP} *bā diǎn yǐqián*] *de kè*] (= [47] above)
 1SG NEG like 8 o’clock before SUB class
 ‘I don’t like classes before eight o’clock.’
- (102) a. [_{DP} [_{dàoPreP} [_{congPreP} *Cóng qī suì*] *dào shí’èr suì*] *de hái’zi*] *dōu lái -le*
 from 7 year to 12 year SUB child all come-PERF
 ‘The children aged from seven to 12 years have all come.’
- b. *[_{DP} [_{congPreP} *cóng qī suì*] *de hái’zi*]
 from 7 year SUB child

Examining these examples in the light of the hierarchy ‘Path over Place’, the *cóng* PreP clearly refers to a point in space or time and thus assumes the Place function, while *dào* ‘to, until’ indicates Path; *dào* being the head and the *cóng* PreP its modifier, the ‘Path over Place’ hierarchy is respected. But in contrast to *yǐlái* ‘since’, *yǐhòu* ‘after’ etc., the path is a closed interval here, with the complement of *dào* providing its endpoint. As a result, the PreP ‘*cóng* XP *dào* YP’ indicating either spatial ([100]), temporal ([97]) or abstract ([98]) location indicates a time span or a path whose boundaries are marked, i.e. a delimited space, domain or time span. It is therefore not surprising that in syntax, this PreP patterns with phrases indicating a PlaceP, i.e. with toponyms, inherently locative nouns and PostPs. Consequently, ‘*cóng* XP *dào* YP’ is fine in the subject position of sentences with an adjectival predicate (cf. [99a]) or the copula *shì* ‘be’ (cf. [100]), on a par with PostPs and in contrast to Path indicating PrePs (cf. [99b]); ‘*cóng* XP *dào* YP’ can also modify non-relational nouns (cf. [101a], again like PostPs (cf. [101b])). Finally, as mentioned in section 3.3 above, the PreP headed by *dào* ‘to’ seems to be the only PreP allowing a modifier in its specifier position, the other prepositions in Chinese being “degenerate” in the sense that they do not project a specifier position, an observation going back to C.-T. James Huang (1982: 27, 61).

4.5. Conclusion

Despite a non-negligible body of observations made over the past forty years converging in favour of the adpositional status of postpositions (cf. Chao 1968, Peyraube 1980, Lü Shuxiang et al. 1980, Ernst 1988 a.o.), their status has remained controversial and they have mostly been conflated with nouns. It is true that the majority of these earlier studies concentrate on postpositions expressing spatial location, but as I have demonstrated in this chapter it is perfectly feasible to extend their observations to the entire domain of postpositions, including temporal and abstract location and to obtain the straightforward result of postpositions as adpositions, different from nouns.

As soon as postpositions are recognized as such, the ‘Path over Place’ hierarchy observed for many other languages (among them German, which like Chinese features both prepositions and postpositions) can be applied to CircPs of the form ‘preposition XP postposition’ in Chinese as well.

In the case of spatial location, it is the preposition that indicates Path and we thus obtain the structure [PreP prep [PostP XP postp]] as in [PreP *cóng* [PostP *zhuōzi shàng*] ‘from table on’ = ‘from the table’. By contrast, in the case of temporal location, Path is expressed by the postposition, thus leading to the structure [PostP [PreP prep XP] postp] as in *cóng míngtiān qǐ* ‘from tomorrow on’. Given that *zài* ‘at’ as functional preposition is special among prepositions, it always heads the CircP it occurs in, irrespective of the type of location involved.

There is thus no necessity and hence no room left for a hybrid category such as “categorical deviate of N” recently proposed by Huang, Li and Li (2009: 17). Besides conceptual problems with hybrid categories in general and the inaccuracy demonstrated above of this approach for Chinese in particular, the ‘categorical deviate of *noun*’ scenario simply falls short of postpositions that have been reanalysed from (unaccusative) *verbs* such as *lái* ‘during, for’, *qǐ* ‘on(wards)’ and the set of postpositions “prefixed” by *yǐ-* (cf. Djamouri and Paul 2012).

Last, but not least, once again the assumption of crosscategorical harmony as a principle determining the shape of synchronic grammar has played a crucial role in the attempts to relegate postpositions to nouns and to not acknowledge their adpositional status, notwithstanding the well-attested cases of genetically unrelated languages such as Mande (a Kwa language) and German featuring both prepositions and postpositions. The consequences for the concept of harmony of the mixed origin (nominal and verbal) of postpositions which in turn are members of the mixed category of adpositions in Chinese are explored in more detail in chapter 8.

References

- Chao, Yuen Ren (1968). *A grammar of spoken Chinese*. Berkeley: University of California Press.
- Cheng, Lisa Lai-Shen and Sybesma, Rint (2009). *De* as an underspecified classifier: First explorations. In: *Yuyanxue Luncong* 39: 123-156. Pre-print version downloadable at : <http://lisacheng.nl>.
- Cheng, Lisa L.-S. and Rint Sybesma (to appear). Mandarin. In *The Handbook of Contemporary Syntax*; Artemis Alexiadou et al. (eds.), Berlin/New York: Mouton De Gruyter.
- Cinque, Guglielmo 2002 (ed.). *Functional Structure in the DP and IP. The Cartography of Syntactic Structures, Vol. 2*. Oxford: Oxford University Press.
- Cinque, Guglielmo (2010). Mapping spatial PPs: an introduction. In *Mapping Spatial PPs. The Cartography of Syntactic Structures, Vol.6*; Guglielmo Cinque and Luigi Rizzi (eds.), 3–25. Oxford: Oxford University Press.
- Cinque, Guglielmo and Luigi Rizzi (eds.) 2010. *Mapping Spatial PPs. The Cartography of Syntactic Structures, Vol.6*. Oxford: Oxford University Press.
- Déchaine, Rose-Marie (2005). Grammar at the borderline: A case study of P as a lexical category. In *Proceedings of the 24th West Coast Conference on Formal Linguistics*; John Alderete et al (eds.), 1–18. Somerville, MA: Cascadia Proceedings Project.
- Djamouri, Redouane and Waltraud Paul (2009). Verb-to-preposition reanalysis in Chinese. In *Historical Syntax and linguistic Theory*; Paola Crisma and Giuseppe Longobardi (eds.), 194–211. Oxford: Oxford University Press.
- Djamouri, Redouane and Waltraud Paul (2012). Deverbal postpositions in Chinese from a diachronic perspective. Paper presented at the *Twentieth Annual Meeting of the International Association of Chinese Linguistics*, Hongkong Polytechnic University, July 29–31, 2012.
- Djamouri, Redouane, Waltraud Paul, and John Whitman (2009). Harmonic disharmony: The case of Chinese adpositions. *Conference on theoretical approaches to disharmonic word orders*. University of Newcastle, May 30 – June 1, 2009.
- Djamouri, Redouane, Waltraud Paul, and John Whitman (2013). Postpositions vs. prepositions in Mandarin Chinese: The articulation of disharmony. In *Theoretical approaches to disharmonic word order*, Theresa Biberauer and Michelle Sheehan (eds.). Oxford: Oxford University Press, chapter 3
- Ernst, Thomas (1988). Chinese postpositions – Again *Journal of Chinese Linguistics* 16 (2): 219–244.
- Hagège, Claude 1975. *Le problème linguistique des prépositions et la solution chinoise (avec un essai de typologie à travers plusieurs groupes de langues)*. Louvain: Peeters.
- Huang, C.-T. James (1982) *Logical Relations in Chinese and the theory of grammar*. Doctoral dissertation, MIT [published 1998 by Garland, New York and London.]
- Huang, C.-T. James, Y.-H. Audrey Li, and Yafei Li 2009. *The Syntax of Chinese*. Cambridge: Cambridge University Press.
- Jackendoff, Ray 1990. *Semantic structures*. Cambridge, MA: MIT Press.
- Li, Yen-Hui Audrey (1990). *Order and Constituency in Mandarin Chinese*. Dordrecht: Kluwer.
- Li Yen-Hui Audrey (1998). Argument Determiner Phrases and Number Phrases. *Linguistic Inquiry* 29 (4): 693–702.
- Li Yen-Hui Audrey (1999). Plurality in a classifier language. *Journal of East Asian Linguistics* 8 (1): 75–99.
- Li Yen-Hui Audrey (2007). *De*: Adjunction and conjunction. Paper presented at the *Joint Conference of IACL-15/NACCL-19*, Columbia University, New York, May 25-27, 2007.
- Li Yen-Hui Audrey (2012). *De* in Mandarin ↔ *e* in Taiwanese. *Studies in Chinese Linguistics* [The Chinese University of Hong Kong] 33 (1): 17–40.
- Li Yen-Hui Audrey (to appear). 从台湾闽南语 *e* 看汉语含 ‘的’ 名词短语结构 *Cóng táiwān mǐnnányǔ e kàn hànyǔ hán de míngcí duānyǔ jiégòu* [Looking at noun phrases with *de* in Mandarin from the perspective of Taiwanese *e*]. In *The attributive particle in Chinese* [Frontiers in Chinese Linguistics Series], Tang, Sze-Wing (ed.). Beijing: Beijing University Press.
- Lin, Jo-wang (2009). Chinese comparatives and their implicational parameters. *Journal of Natural Language Semantics* 17: 1–27.
- Liu, Danqing (2004). *Yǔxù lèixíngxué yǔ jiècí lǐlùn* [Word order typology and prepositions]. Beijing: Shangwu.

- Liu, Feng-hsi (1998). A clitic analysis of locative particles. *Journal of Chinese Linguistics* 26 (1): 48–70.
- Lü, Shuxiang et al. (eds.) 1980. *Xiàndài hànyǔ bābáicí* [Eight hundred words of Modern Mandarin]. Běijīng: Shangwu. [Revised edition used here from 2000].
- McCawley, James D. (1992). Justifying part-of speech assignments in Mandarin Chinese. *Journal of Chinese Linguistics* 20 (2): 211–245.
- Paul, Waltraud (2012). Why Chinese *de* is not like French *de*: A critical analysis of the predication approach to nominal modification. *Studies in Chinese Linguistics* [The Chinese University of Hong Kong] 33 (3): 183–201.
- Paul, Waltraud (to appear) The insubordinate subordinator *de* in Mandarin Chinese: Second take. In *The attributive particle in Chinese* [Frontiers in Chinese Linguistics Series], Tang, Sze-Wing (ed.). Beijing: Beijing University Press.
- Peyraube, Alain (1980). *Les constructions locatives en chinois moderne*. Paris: Editions Langues croisées.
- Riemsdijk, Henk van (1990). Functional prepositions. In: *Unity in diversity. Papers presented to Simon C. Dik on his fiftieth birthday*; Harm Pinkster and Inge Genee (eds.), 229–241. Dordrecht: Foris.
- Riemsdijk, Henk van, and Riny Huijbregts (2007). Location and Locality. In *Clausal and phrasal architecture: syntactic derivation and interpretation: A Festschrift for Joseph E. Emonds*; Krimi Smini, Vida Samian, and Wendy Wilkins (eds.), 1–48. Amsterdam: John Benjamins.
- Scott, Gary-John (1998). Stacked adjectival modification and the structure of nominal phrases. MA thesis, School of Oriental and African Studies, University of London.
- Scott, Gary-John (2002a). Stacked adjectival modification and the structure of nominal phrases. In *Functional Structure in the DP and IP. The Cartography of Syntactic Structures, Vol. 2*; Guglielmo Cinque (ed.), 91–116. Oxford: Oxford University Press.
- Scott, Gary-John (2002b). The syntax and semantics of adjectival modification. Ph.D. diss., School of Oriental and African Studies, University of London.
- Simpson, Andrew (2001). Definiteness agreement and the Chinese DP. *Language and Linguistics* 2 (1): 125–156.
- Svenonius, Peter (2006). The emergence of axial parts. *Tromsø Working Papers in Language & Linguistics* 33 (1) [Special Issue on Adpositions]: 49–77. University of Tromsø, Tromsø. Available at <http://www.ub.uit.no/baser/nordlyd/>.
- Svenonius, Peter (2007). Adpositions, particles and the arguments they introduce. In *Argument Structure*; Eric Reuland, T. Bhattacharya, and G. Spathas (eds.), 71–110. Amsterdam: John Benjamins.
- Tang, Chih-Chen Jane (2007). Modifier licensing and the Chinese DP: a feature analysis. *Language and Linguistics*, 8 (4): 967–1024.
- Xing Fuyi (1980). Guānyú ‘cóng X dào Y’ jiégòu [On the construction ‘cóng X dào Y’]. *Zhongguo Yuwen* [Studies of the Chinese Language] 1980, nr. 5: 345–346.
- Yu Daguang (1980). ‘Cóng X dào Y’ shì jiécí jiégòu ma [Is ‘cóng X dào Y’ a PP?]. *Zhongguo Yuwen* [Studies of the Chinese Language] 1980, nr. 5: 347.
- Zhang, Niina Ning (2002). Movement within a spatial phrase. In *Perspectives on Prepositions* [Linguistische Arbeiten 454]; Hubert Cuyckens and Günther Radden (eds.), 47–63. Tübingen: Niemeyer.
- Zhang, Niina Ning (2009). The syntax of relational-nominal second constructions in Chinese. In *Yǔyánxué lùncóng* 39; Beijing University Department of Linguistics (ed.), 257–301. Beijing: Shangwu.
- Zhang, Niina Ning (2010). *Coordination in Syntax*. Cambridge: Cambridge University Press.
- Zhang, Wenzhou (1980). Néng zài pànduànjù zhōng zuò zhǔyǔ de yī zhǒng jiécí jiégòu [A prepositional construction that can function as subject in equational sentences]. *Zhongguo Yuwen* [Studies of the Chinese Language] 1980, nr. 3: 175–176.
- Zhu, Jun (2010). Hanyu fānwèi gòushì ‘cóng X dào Y’ yánjiū [A study of the construction *cóng X dào Y*]. *Yǔyán Yánjiū* [Studies in Language and Linguistics] 30 (2): 70–77.

5. Adjectives: Another ostracized category – which turns out to be two

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5. Adjectives: Another ostracized category – which turns out to be two

Adjectives are another illustration of how our preconceived ideas about isolating languages such as their allegedly “impoverished” categorial inventory can shape the acceptance of analyses proposed. Thus, the proposals by, among others, Larson (1991), McCawley (1992), Tang Sze-Wing (1998), to conflate adjectives in Chinese with intransitive stative verbs have not aroused criticism, although for the most part relying on a very reduced data basis.¹ Interestingly, this contrasts neatly with the position adopted by Chinese grammarians working in the structuralist tradition back in the fifties and sixties of the last century, who simply took adjectives as a separate part of speech for granted, as witnessed by the numerous studies of adjectival modification published in the major journals of that period (cf. a.o. Zhu Dexi 1956/80, Xiao Fu 1956, Fan Jiyan 1958; for a recent pro-adjective view, cf. Huang, Li and Li 2009: 21–26).

The present chapter takes up this traditional view and presents ample evidence in favour of adjectives as distinct from stative verbs. In fact, it goes a step further and argues that Chinese has as many as *two* morphologically different classes of adjectives with distinct semantic and syntactic properties, i.e. *simple adjectives* and *derived adjectives*. Although derived adjectives (subsuming e.g. reduplicated adjectives) have been much discussed in the Chinese literature, they have not been recognized as constituting a class different from that of simple adjectives. To obtain a correct picture of these issues is not only important for an adequate grammar of Chinese itself, but also for the growing number of typological studies of adjectival modification, whose view of Chinese has so far been much influenced by the (incorrect) description in Sproat and Shih (1988, 1991).

The first section 5.1 is devoted to distinguishing (simple) adjectives from stative verbs. As observed for adjectives in other languages, adjectives in Chinese also involve different semantic types (scalar vs. absolute, intersective vs. non-intersective adjectives), which in turn correlate with syntactic differences. Against this backdrop, section 5.2 addresses the issue of adjectival modification, which has been at the heart of typological studies. Two modification patterns with different semantic properties are established: ‘A *de* N’, where the subordinator *de* intervenes between the adjective and the head noun, on the one hand, and the case of simple juxtaposition of the adjective and the noun ‘A N’, on the other. This result invalidates an overall analysis of ‘A N’ sequences as compounds, i.e. as words (cf. Sproat & Shih 1988, 1991; Duanmu San 1998); it likewise challenges current proposals where all adnominal modifiers subordinated by *de* are either analysed as relative clauses (cf. Sproat & Shih 1988, 1991; Duanmu 1998; Simpson 2001) or as small clauses (Den Dikken & Singhapreecha 2004), an assumption relying on the conflation of adjectives with stative verbs. Section 5.3 once again takes up the issue of adjectives as a separate part of speech and introduces the class of *derived adjectives* in addition to the class of *simple adjectives* discussed so far. Their status as two distinct morpho-syntactic classes is backed up by a whole set of syntactic and semantic differences. Needless to say, the existence of two adjectival classes further supports the view defended here that adjectives cannot be conflated with verbs; but represent a separate category. Last, but not least, the result obtained for Chinese again challenges our preconceived ideas about isolating languages and their allegedly impoverished categorial inventory.

5.1. *Adjectives as a distinct lexical category*

Proposals defending the conflation of adjectives with stative verbs (cf. McCawley 1992, Larson 1991, Tang Sze-Wing 1998, Lin 2004 among others) in general put forward the following two observations as supporting evidence. First, adjectives such as *cōngmíng* ‘intelligent’ function as predicate without the copula *shì* ‘be’, thereby contrasting with e.g. English where the copula is obligatory, as indicated in the translation of example (1):

- (1) *Zhāngsān tèbié cōngmíng*
Zhangsan particularly intelligent
‘Zhangsan *(is) particularly intelligent.’

¹ Likewise, Newmeyer (2005: 86) has no problem to accept Dixon’s (1977) point of view that adjectives in Chinese (as well as in Thai and many Austronesian languages) are to be subsumed under the class of verbs.

Second, when functioning as an adnominal modifier, the adjective is subordinated to the noun by *de*:

- (2) *yī ge cōngmíng de rén*
 1 CL intelligent SUB person
 ‘an intelligent person’

Since the same subordinator *de* also appears between a relative clause and the noun (cf. [3]), it has been suggested that a prenominal adjective followed by *de* should be analysed as a relative clause (cf. Sproat & Shih 1988, 1991; Duanmu San 1998, Simpson 2001 among others):

- (3) [_{DP} *yī ge* [_{TP} \emptyset_i *xǐhuān xiào*] *de rén*]_i
 1 CL like laugh SUB person
 ‘a person who likes laughing’

According to this scenario, *yī-ge cōngmíng de rén* in (2) would represent a noun modified by a relative clause and hence should be translated as ‘a person who is intelligent’ rather than as ‘an intelligent person’. This is precisely the view adopted by Sproat & Shih (1988, 1991), Duanmu (1998), and Simpson (2001) for whom all sequences ‘adjective *de*’ are equated with relative clauses.

However, as soon as a more representative array of data is taken into account (cf. below sections 5.1.1.– 5.1.4), the relative clause analysis of ‘A *de* N’ and the associated conflation of adjectives with verbs is straightforwardly invalidated.

5.1.1. *Non-predicative adjectives vs. predicative adjectives*

As pointed out by Lü and Rao (1981), Chinese has a large class of so-called *non-predicative* adjectives which cannot function as predicates on their own, but only as modifiers. When functioning as predicate (cf. [4a], [5a]), the copula *shì* and the particle *de* are obligatory (Paris 1979: 61). Crucially, *shì...de* is excluded from the modification structure in the DP (cf. [4b], [5b]):²

- (4) a. *Zhèi ge pánzi *(shì) fāng *(de)*
 this CL plate be square DE
 ‘This plate is square.’
 b. *Tā mǎi-le [_{DP} *yī ge (*shì) fāng de_{sub} pánzi*]*
 3SG buy-PERF 1 CL be square SUB plate
 ‘He bought a square plate.’
- (5) a. *Zhèixiē wénjiàn *(shì) juémì *(de)*
 these document be top-secret DE
 ‘These documents are top-secret.’
 b. *Tā diū -le [_{DP} *yīxiē (*shì) juémì de_{sub} wénjiàn*]*
 3SG lose-PERF some be top-secret SUB document
 ‘He lost some top-secret documents.’

As can be seen from the data provided here, the class of non-predicative adjectives in Chinese includes both intersective adjectives (cf. [4], [5]) as well as non-intersective adjectives (cf. [6], [7]); the latter – like their counterparts in Western languages – are completely excluded from the predicative function, irrespective of *shì...de* (cf. [6a], [7a]).

² Note that *de* in the *shì...de* construction with non-predicate adjectives is different from the subordinator *de* in the DP (cf. Paris 1979: 60ss). They are therefore glossed differently as DE and SUB, respectively. Furthermore, the subordinator *de* is indexed with SUB in order to facilitate the parsing of examples with these two different *de*.

(6) a. *Zhèi ge yǔyán shì gòngtóng de
this CL language be common DE
(*‘This language is common.’)

b. gòngtóng de_{sub} yǔyán
common SUB language
‘a common language’

(7) a. *Zhèi ge yìsi shì yuánlái de
this CL meaning be original DE
(*‘This meaning is original.’)

b. yuánlái de_{sub} yìsi
original SUB meaning
‘the original meaning’

Furthermore, predicative adjectives coincide with scalar, gradable adjectives, whereas non-predicative intersective adjectives coincide with absolute adjectives (cf. Paris 1979 for extensive discussion). (For additional data, cf. section 5.1.3 below.)

Given that non-predicative adjectives are precisely unable to function as predicates, they clearly challenge an overall analysis of attributive adjectives as relative clauses, as proposed by Sproat & Shih (1988, 1991), Duanmu (1998), Simpson (2001) (the latter implementing Kayne 1994)), Liu Danqing (2005), as well as analyses deriving every modifier from an underlying predicate (Den Dikken & Singhapreecha 2004).³ In any case, as discussed in detail in Paul (2005a, 2012, to appear), the wide range of non-predicative modifiers (DPs, NPs, PPs, adverbs) subordinated to the head noun by *de* presents a general problem for the derivation of all modifiers from underlying predicates (cf. chapter 3.3. for the impossibility of PPs to function as predicates). (For a critique of Simpson’s (2001) uniform analysis of modifiers as relative clauses, also cf. C.-C. Jane Tang 2007.)

(8) [_{DP} Měilì/tāmen] de_{sub} péngyou
Mary/3PL SUB friend
‘Mary’s friend/their friend’

(9) [_{NP} bōli] de_{sub} zhuōzi
glass SUB table
‘a glass table’

(10) [_{PP} duì wèntí] de_{sub} kànfǎ (Lü et al. 2000: 157)
towards problem SUB opinion
‘an opinion about the problem’

(11) a. [_{adv} lǐlái] de_{sub} xíguàn (Lü et al. 2000: 157)
always SUB habit
‘an old habit’

b. [_{adv} wànyī] de_{sub} jǐhuì
in.case SUB occasion
‘a rare occasion’

³ Based on the class of *non-intersective* non-predicative adjectives (‘original’, ‘former’ etc., (cf. [6], [7]), Aoun & Li (2003: 148) likewise conclude that not all pronominal adjectives can be derived from relative clauses. However, they do not discuss *intersective* non-predicative adjectives (cf. [4], [5]) and accordingly fail to see the correlation between presence vs. absence of *shì...de* and predicative vs. attributive function.

None of the modifier XPs in (8) to (11) can constitute a predicate, which further invalidates an overall relative clause analysis of adnominal modifiers in Chinese.

5.1.2. Adjectival reduplication vs. repetition of the verb

The fact that adjectives are reduplicated according to a pattern different from that for verbs provides another argument against their conflation. More precisely, while verbs are repeated as a whole (cf. [12a-b]), each syllable is iterated with adjectives (cf. [13]). Consequently, for a disyllabic verb noted ‘AB’, we obtain two instances of the verb, $[_V^0 AB] [_V^0 AB]$, whereas the reduplication of a disyllabic adjective ‘AB’ results in one adjective of a new type, i.e. $[_{Adj}^0 AABB]$ (cf. section 5.3 below for further discussion):

- (12) a. *Qǐng gěi wǒmen zhǐdian zhǐdian/*zhǐzhǐdiǎndiǎn*
 please for 1PL advise advise
 ‘Please give us some advice (how to do it).’
- b. *Nǐ kǎolü kǎolü /*kǎokǎolülù*
 2SG think.over think.over
 ‘Try to think it over.’
- c. *Nǐ chàngge gē ràng dàjiā huānxi huānxi/*huānhuānxǐxǐ*
 2SG sing CL song let everybody enjoy enjoy
 ‘Sing a song for everybody to enjoy.’
- d. *Ràng ta zhīdao zhīdao/*zhǐzhīdaodao wǒ de lìhài*
 let 3SG know know 1SG SUB (dis)advantages
 ‘Let him know my advantages and disadvantages.’
 (Meng et al. 1984: 918)
- (13) a. *Tā de_{sub} fángjiān zǒngshì gāngānjìngjìng/*gānjìng gānjìng*
 3SG SUB room always clean / clean clean
 ‘His room is always nicely clean.’
- b. *Fángwū de_{sub} wàibiǎo pòpòlànlan/*pòlan pòlan*
 house SUB façade worn.out / worn.out worn.out
 ‘The façade of the house looks run down.’ (Yang-Drocourt 2008: 45)

There is also a difference on the suprasegmental level. The lexical tones (noted as T) are maintained in adjectival reduplication, hence $[_{Adj} A^T B^T] > [_{Adj} A^T A^T B^T B^T]$, as e.g. in (13): *gānjìng* > *gāngānjìngjìng*. By contrast, in the repetition of the verb the second syllable is in the neutral tone (signalled by the absence of a tone mark in the transliteration), hence $[_V A^T B^T] > [_V A^T B^0] [_V A^T B^0]$, as in (12): *zhǐdiǎn* > *zhǐdian zhǐdian*. It is this difference in the tonal pattern that allows to distinguish between adjectival reduplication and repetition of the verb in the case of monosyllabic words; once again the tone of the adjective is maintained: $[_{Adj} A^T] > [_{Adj} A^T A^T]$ (cf. (15a-b)), whereas the repeated verb is in the neutral tone: $[_V A^T] > [A^T] [A^0]$ (cf. (14a-b)).

- (14) a. *Zhōumò zài jiā kàn kan shū, tīng tīng yīnyuè, duō hǎo!*
 weekend at home look look book listen listen music much good
 ‘To read some books and to listen to music during the weekend, how wonderful this is!’
- b. *Nǐ chángchang zhèi ge cài de wèidao*
 2SG test test this CL dish SUB taste
 ‘Have a taste of this dish.’
 (Yang-Drocourt 2008: 21, [28], [29])

- (15) a. *Yǎnquān hóng**hóngde*⁴
 eye.socket red
 ‘The eyes are all red.’
- b. *Yè hēi**hēide*
 night black
 ‘At night it’s all dark.’ (Yang-Drocourt 2008: 42, [45], [46])

The preceding examples illustrate that verbs – be they stative or activity verbs, transitive or intransitive – all show the same pattern and are repeated as a whole, resulting in two instances of the verb, in contrast to the reduplication of each syllable for adjectives giving rise to one adjective.⁵

The formal difference between adjectival reduplication and repetition of the verb is accompanied by an interpretational difference, confirming that two completely different processes are involved here. Whereas the repetition of the verb ‘[_V AB] [_V AB]’ gives rise to the so-called “tentative aspect” (Chao 1968: 204) or “delimitative aspect” (Li and Thompson 1981: 232–236), reduplication of adjectives ‘[_A AAB]’ is said to involve a higher degree of liveliness or intensity (cf. Chao 1968: 209; Tang Ting-chi 1988, Zhu Dexi 1956).⁶ This shows clearly that adjectives and intransitive stative verbs (such as *huānxī* ‘enjoy’) cannot be conflated into a single class. (For a detailed discussion of the syntax and semantics of reduplicated adjectives, cf. section 5.3 below).

5.1.3. De-less modification

Besides the modification structure where the subordinator *de* intervenes between the adjective and the noun, ‘A *de* N’, there also exists the possibility of simply juxtaposing the adjective and the noun: ‘A N’, where ‘A N’ is a noun *phrase*, not a compound (as to be demonstrated in section 5.2.3 below).

The existence of the *de*-less modification structure is important, because in addition to the arguments provided above it once again highlights the fact that not all adnominal modifiers can be analysed as relative clauses, the latter always requiring *de*. Consequently, the acceptability of the *de*-less modification pattern again allows us to distinguish between adjectives and stative verbs, because only the former, but not the latter, can modify a noun without *de*. Last, but not least, the (im)possibility of *de*-less modification serves as one of the diagnostics allowing to establish two different classes of adjectives for Chinese (cf. section 5.3 below).

A rich array of data is given below in order to illustrate the properties of the *de*-less modification structure and to correct misconceptions prevalent in the literature.

First, the *de*-less modification structure is acceptable for monosyllabic *and* disyllabic adjectives as well as for complex modifiers (cf. (19-20)); this straightforwardly invalidates Sproat & Shih’s claim (1988: 466, 474; 1991: 566) that the *de*-less modification structure is acceptable only for monosyllabic “light” adjectives.⁷

⁴ For discussion of the *de*-ending in reduplicated adjectives, cf. section 5.3 below.

⁵ Note that in the literature the *repetition* of the verb and adjectival *reduplication* are in general both referred to as *reduplication* (*chóngdié* in Chinese), even by authors who discuss them in order to highlight the differences between verbs and adjectives. Since two completely different phenomena are involved, I prefer to use two different terms. Furthermore, the differences between the two are also systematically reflected in my Pinyin transliteration, another point often not paid attention to in the literature. A reduplicated adjective is written as one word, AAB, whereas the two repeated instances of the verb are written separately as two words, AB AB.

⁶ As emphasized in Yang-Drocourt (2008: 20), the general softening, quantity decreasing semantics associated with repetition of the verb produces different effects, depending on the verb and the context. The repetition of the verb can e.g. convey (i) the short duration of a process or the small amount of iterations of a process, (ii) the lack of impact of a movement or a gesture, (iii) the softening of an order or request made, (iv) the (cautious) attempt of undertaking an action. These nuances are often difficult to render in English and are therefore not systematically reflected in the translations of the examples.

⁷ Apparently, the idea that *de*-less modification is possible with monosyllabic adjectives only has been around for a long time, because it is explicitly corrected by e.g. Fan Jiyan (1958: 213) and Zhu (1956/80: 3). Fan Jiyan (1958: 213) even goes as far as providing an exhaustive list giving all the possible combinations of monosyllabic and polysyllabic nouns with monosyllabic and polysyllabic adjectives in the *de*-less modification structure.

- (16) *yī jiàn zāng/ piàoliang/ gānjìng yīfu*
1 CL dirty/ pretty / clean dress
'a dirty/pretty/clean dress'
- (17) *yī ge qíguài xiànxàng*
1 CL strange phenomenon
'a strange phenomenon'
- (18) *pǔtōng shēnghuó*
ordinary life
'an ordinary life'
- (19) *yī bǎ [yìng sùliào] yǐzi*⁸ (Fu Jingqi 1987: 286, [55])
1 CL hard plastic chair
'a chair of hard plastic'
- (20) *yī ge [hēi qī] yīguì* (Fan 1958: 215)
1 CL black lacquer wardrobe
'a black-lacquered wardrobe'

Second, predicative adjectives as well as non-predicative intersective adjectives occur in both types of modification structures, the one with and the one without the subordinator *de*. If the relative clause analysis of all adnominal modifiers were correct, we would expect a completely different scenario: predicative adjectives would be predicted to exclusively occur in the modification structure with *de* (*de* being obligatory for relative clauses), whereas non-predicative adjectives would be predicted to be limited to the *de*-less modification structure and to be excluded from the modification structure with *de* (the latter being likened to a relative clause). Note finally that the unacceptability of non-intersective adjectives such as *yuánlái* 'original', *yǐqián* 'former' in the *de*-less modification structure and their acceptability in the modification structure with *de* (cf. [7] above, *yuánlái *(de) yìsi* 'the original meaning') is completely unexpected as well; given that non-intersective adjectives are excluded from any predicative function, be it on their own or with *shì...de*, they should not occur in the modification structure with *de* which allegedly always involves a relative clause as modifier.

Non-predicative intersective adjectives with and without *de*:

- (21) *yī ge fāng (de) pánzi* (cf. [4] above)
1 CL square SUB plate
'a square plate'
- (22) *tiānrán (de) zhēnzhū*
natural SUB pearl
'natural pearls'
- (23) *juémì (de) wénjiàn* (cf. [5] above)
top-secret SUB document
'top-secret documents'

Predicative adjectives with and without *de*:

- (24) *yī ge pàng/ lǎoshí/ cōngmíng (de) rén*
1 CL fat / honest/ intelligent SUB person
'a fat/honest/intelligent person'

⁸ The complex modifier in (19) and (20) is itself a *de*-less modification structure 'A N', viz. *yìng sùliào* 'hard plastic' and *hēi qī* 'black lacquer', respectively.

- (25) *yángé (de) guīdìng*
strict SUB rule
'strict rules'
- (26) *yī jiàn zāng/ piàoliang/ gānjìng (de) yīfu*
1 CL dirty/ pretty / clean SUB dress
'a dirty/pretty/clean dress'
- (27) *yī tiào dà/ hēi (de) gǒu*
1 CL big/ black SUB dog
'a big/ black dog'

Third, acceptability in the *de*-less modification structure is another criterion for distinguishing between predicative adjectives on the one hand, and stative verbs, on the other. Since both classes are compatible with degree adverbs such as *hěn* 'very', they seem at first sight difficult to tell apart:

- (28) *Tā hěn cōngmíng/ hěn dānyōu*
3SG very intelligent/ very worry
'He is intelligent / worries a lot.'

However, in contrast to adjectives, stative verbs - like verbs in general - are excluded from the *de*-less modification structure and can only modify a head noun by virtue of being in a relative clause, which always requires *de* (cf. [29]):⁹

- (29) $[_{DP}[_{TP} \emptyset_i \text{ dānyōu}] *(\text{de}_{sub}) \text{ ren}_i]$
worry SUB person
'persons who worry'

⁹ This statement must be somewhat relativized insofar as VPs may be directly juxtaposed with a head noun without the subordinator *de*: 'VP N°'. A first small survey shows that in the majority of cases, the noun plays the role of an adjunct with respect to the VP, (cf. [i] – [iii]), that the VP must be a bare VP (cf. [vi]), and that acceptability judgements vary (marked by '#'): only (i) – (iii) were accepted by all informants.

- (i) $[_{VP} \text{ xià yǔ}] \text{ tiān}$
fall rain day
'a rainy day'
- (ii) $\text{tíng chē} \text{ dìdiǎn}$
stop car place
'parking lot'
- (iii) $\text{bào míng} \text{ rìqí}$
report name date
'registration deadline'
- (iv) $\# \text{dānyōu} \text{ rénming}$
worry life
'a life of worries'
- (v) $\# \text{kāi huì} \text{ shíjiān}$
hold meeting time
'the time of the meeting'
- (vi) $\text{kěyǐ} \text{ bào míng} *(\text{de}) \text{ rìqí}$
can report name SUB date
'the date until one can register'

The absence of *de* seems to induce a semantic effect similar to that observed in the simple juxtaposition 'adjective noun' (cf. section 5.2 below) where a new subcategory is created: 'rainy day' rather than 'a day when it was raining' for (i). Future research needs to determine whether these *de*-less structures are compounds or indeed phrases involving a reduced relative clause. For first attempts at collecting some of the relevant data, cf. Lü et al. (2000: 158), Liu Danqing (2005: 8), Shi Dingxu (2005).

The difference between verbs and adjectives is particularly clear in the case of predicative adjectives that have an inchoative verbal counterpart, identifiable by its compatibility with the perfective aspect suffix *-le*: While the adjective can simply be juxtaposed with the head noun (cf. [24], [26] above), the corresponding verb requires the presence of *de* ([30], [31]).

- (30) *pàng -le *(de) rén*
become.fat-PERF SUB person
'the person who has put on weight'

- (31) *zāng -le *(de) yīfu*
become.dirty-PERF SUB dress
'the dress which has become dirty'

Acceptability in the *de*-less modification structure is thus a good test to tell adjectives apart from verbs. The differences in semantic and syntactic constraints between the *de*-less modification structure and the modification structure with *de* require a detailed study which is taken up in section 5.2 below. These differences are not only important for typological studies of adnominal modification, but also corroborate the distinction between the categories adjectives and verbs.

5.1.4. Fried chicken and "bleached" *hěn*

Another difference between adjectives and stative verbs is an interpretational one: when an adjective in its bare form without any adverbial modifier functions as predicate, it is understood as indicating the comparative degree, while this is not the case for a bare stative verb such as *xǐhuān* 'like':

- (32) *Tā cōngmíng/ piàoliang / kāixīn/ lèi*
3SG intelligent/ good-looking/ joyful/ tired
'She is more intelligent/good-looking/joyful/tired
(than someone mentioned in the preceding discourse or known to hearer and speaker).'

- (33) *Tā xǐhuan shùxué*
3SG like mathematics
'She likes mathematics.'
[Not: 'She prefers mathematics to another implicitly understood subject matter.']

As to be expected, in the comparative structure with an explicit standard of comparison, the adjective is in the bare form as well:

- (34) *Tā bǐ Lǐsì cōngmíng/ piàoliang / kāixīn/ lèi*
3SG compared.to Lisi intelligent/ good-looking/ joyful/ tired
'He is more intelligent/good-looking/joyful/tired than Lisi.'

If the positive degree is intended, the presence of a degree adverb such as *tèbié* 'particularly', *tài* 'too' etc. is obligatory (cf. [1] above). If, however, the speaker does not want to add the meanings associated with these adverbs, but simply wants to express the positive degree, the (unstressed) adverb *hěn* 'very' is used; this *hěn* does not make any semantic contribution (hence remains untranslated), and is therefore often referred to as "bleached" *hěn*:¹⁰

- (35) *Tā hěn cōngmíng/ piàoliang / kāixīn/ lèi*
3SG very intelligent/ good-looking/ joyful/ tired
'She is intelligent/good-looking/joyful/tired.'

¹⁰ In order for *hěn* preceding an adjectival predicate to convey its lexical meaning 'very', it needs to be stressed (cf. *Xiàndài hànyǔ xǔcí lishi*, p. 243).

By contrast, when *hěn* ‘very’ modifies a stative verb, its lexical meaning ‘very’ contributes to the meaning of the sentence and is thus on a par with other degree adverbs:

- (36) *Tā hěn /tài/ tèbié xǐhuan shùxué*
 3SG very / too/ particularly like mathematics
 ‘She (particularly) likes mathematics (very much/too much).’

These facts are well-known (cf. Dragunov 1952/60: §165, §202; *Xiandai hanyu xuci lishi* (1982: 244); Lü et al. 2000: 267; among others) and it is therefore misleading to mark well-formed sentences with a bare adjective predicate of the type illustrated in (32) as ungrammatical, a practice sometimes encountered in the literature (cf. a.o. Huang Shizhe 2006, C.-S. Luther Liu 2010).¹¹

To my knowledge, among the linguists outside of China, Paris (1989) was the first to take up the observations made by the Chinese linguists concerning the comparative degree interpretation of bare adjectival predicates and the positive degree interpretation obtained when contrasted in conjoined sentences (also cf. Sybesma 1999: 27).

- (37) *Zhèi běn shū guì* (Paris 1989: 112, [53])
 this CL book expensive
 ‘This book is more expensive.’

- (38) *Zhèi běn shū guì , nèi běn piányi* (Paris 1989: 113, (54))
 this CL book expensive that CL cheap (cf. *Xiandai hanyu xuci lishi* (1982: 244))
 ‘This book is expensive., that one is cheap.’

In fact, negation (cf. [39]) and questions (cf. [40a–b]) are additional syntactic contexts that give rise to a positive degree interpretation of a bare adjectival predicate, to the exclusion of the comparative degree interpretation:

- (39) *Zhèi běn shū bù guì*
 this CL book NEG expensive
 ‘This book is not expensive.’
- (40) a. *Zhèi běn shū guì ma ?*
 this CL book expensive PART
 ‘Is this book expensive?’
- b. *Zhèi běn shū guì bù guì?*
 this CL book expensive NEG expensive
 ‘Is this book expensive?’

As illustrated by (40a) and (40b), this observation holds for both types of *yes/no* question, i.e. the so-called ‘A-*bù*-A’ question (cf. Huang C.-T. James 1982) where the affirmative predicate is followed by the same predicate in negated form, and the question built by adding the sentence-final particle *ma* to the sentence (cf. chapter 7).

Due to the renewed interest in adjectives over the last decade, the role of *hěn* ‘very’ in Chinese has produced quite a number of studies; *hěn* ‘very’ is also a challenge for the general claim that crosslinguistically the comparative rather than the positive degree is marked in languages.¹²

¹¹ While being perfectly well-formed, a sentence such as (32) might be considered awkward when the standard of comparison is unknown. Note that this likewise holds for the English equivalent of (32): *She is more intelligent/good-looking/joyful/tired*; however, no one would therefore judge it ungrammatical and mark it with an asterisk.

¹² According to Paris (1989: 113), in Chinese the positive degree is derived from the comparative degree, the latter being the base form for adjectives.

Huang Shi–Zhe (2006: 352) postulates that adjectives are of the same semantic type as bare nouns, i.e. argumental <e>, and that they require a “predication marker” in the form of the “type lifter” *hěn* ‘very’ when functioning as predicates.¹³ Note, though, that this makes the wrong prediction for bare nouns as predicates, because here the copula *shì* ‘be’ is required, not *hěn* ‘very’: *S *hěn* N vs. S *shì* N (cf. [41a]). Likewise, the parallel between adjectives and bare nouns leads us to expect the presence of the copula *shì* ‘be’ for adjectival predicates, again contrary to fact, because the copula is excluded for adjectives: *S *shì* adjective (cf. [41b]).¹⁴ Nor can Huang Shi–Zhe’s (2006) scenario account for the contrast between nouns and adjectives with respect to negation; while adjectives can be directly preceded by the negation *bù* (cf. [42a]), this is excluded for bare nouns, which again require the copula (cf. [42b]):

(41) a. *Tā {shì/*hěn} lǎoshī*
3SG be/ very teacher
‘He is a teacher.’

b. **Tā shì cōngmíng*
3SG be intelligent

(42) a. *Tā bù cōngmíng*
3SG NEG intelligent
‘He is not intelligent.’

b. *Tā *(bù) shì lǎoshī*
3SG NEG be teacher
‘He is not a teacher.’

Last, but not least, Huang Shi–Zhe (2006) does not discuss the comparative degree interpretation observed for bare adjectival predicates (cf. [32]). Since in her proposal adjectives are considered to be argumental <e> and therefore incapable of functioning as predicates on their own, this phenomenon is as unexpected as the possibility of bare adjectival predicates to indicate the positive degree in certain syntactic contexts (cf. [38] – [40]). (Also cf. Cheng and Sybesma 2009, Liu 2010, Grano 2012 for a critical appraisal of Huang Shi–Zhe 2006).

C.–S. Luther Liu (2010) considers *hěn* as the realization of the otherwise covert positive morpheme POS, which is analysed as a polarity item. When there is no predicate accessible operator_[–wh] to license POS, *hěn* is required. This is the case in matrix declarative sentences, hence the obligatory character of *hěn*. By contrast, under negation and in interrogatives as well as in conditionals, bare adjectival predicates (with covert POS) are fine, because in all of these syntactic environments POS *qua* polarity item is licensed. As emphasized by C.–S. Luther Liu (2010), under this analysis, the adjectival structure in Chinese is simpler than that in English.

Grano (2012) adopts the opposite view and tries to reconcile the Chinese facts with the generalization that adjectives indicating the comparative degree in general have more, not less

¹³ More precisely, Huang Shizhe (2006) makes this claim for “simple” adjectives only, given that “complex adjectives” such as reduplicated adjectives (cf. [13] above) are said to be of the type <e,t>, hence capable of functioning as predicate. Cf. section 5.3 below for discussion of that second class of adjectives.

¹⁴ The sequence ‘S *shì* adjective’ is only acceptable when *shì* is not the copula, but the so-called *emphatic shì*, which like English *do* strengthens the assertion and is always stressed:

- (i) *Tā shì cōngmíng*
3SG SHI intelligent
‘He is intelligent.’
- (ii) *Tā shì zǒu-le* (Lü et al. 1980: 499)
3SG SHI leave-PERF
‘He did leave.’

Unlike the copula *shì* ‘be’, emphatic *shì* cannot be negated: **Tā bù shì cōngmíng*. It can therefore not be likened to the (negatable) copula *shì* used in focus clefts and association with focus structures (*contra* C.–S. Luther Liu 2010: 19; Grano 2012, section 4.3).

structure than those indicating the positive degree. Positive degree semantics is provided by a type shifting rule that does *not* project in syntax, but merely changes the semantic type of a degree relation to that of a property. By contrast, the covert comparative operator projects a DegreeP in syntax, in addition to providing the comparative degree semantics; crucially, a DegP can function as predicate. Combining these assumptions with the requirement for T (the head of the highest projection in the sentence hosting the subject in its specifier) in Chinese to exclusively select a potentially predicative projection, he derives the obligatory presence of *hěn* in the case of positive degree bare adjectives, *hěn* projecting a DegP which in turn is an acceptable complement for T. The negation *bù* in fact has the same effect as *hěn*, i.e. it interposes a predicative projection (analysed as the realization of Laka's (1990) Sigma Phrase) between the T node and the AP. This works nicely both for negation and A-*bù*-A questions as in (40b) above, where the morpheme with the feature [+Q] giving rise to the A-*bù*-A question occupies the same SigmaP as negation. However, this account is more difficult to defend for the yes/no question with the sentence-final particle *ma*, *ma* qua complementiser (C) being above TP and therefore not able to intervene between T and the positive degree AP. (Cf. chapter 7 below for an analysis of sentence-final particles as C.)

To summarize this short overview, C.-S. Luther Liu (2010) and Grano's (2012) analyses of *hěn* are superior to Huang Shi-Zhe's (2006) in that they are able to account for most of the relevant data. However, as far as I can judge, their accounts fall short of the second class of adjectives, i.e. the *derived adjectives* (to be discussed in section 5.3 below), which are characterized by a positive degree interpretation to the exclusion of the comparative degree interpretation when functioning as predicates on their own. This also highlights the importance of the second class of adjectives both for syntax and semantics, because any analysis proposed for simple adjectives must be double checked for its predictions concerning this second class.

5.2. De-less modification vs. modification with *de*¹⁵

In section 5.1.3 above the *de*-less modification structure was mentioned as one of the diagnostics that allows us to distinguish adjectives from verbs. I now turn to the interpretational differences associated

¹⁵ Like all studies on the *de*-less modification structure 'A N', I limit myself here to the constraints governing the presence or absence of *de* when the adjective is to the right of the classifier. This precision in general remains implicit, the more so as the majority of examples provided in the literature are of the form 'A (*de*) N' without any classifier phrase. It is important to be emphasized, though, because it is well-known that the constraints governing the presence or absence of *de* are quite different for modifier XPs *preceding* the sequence 'demonstrative pronoun classifier'. For example, relative clauses may occur without *de* here (cf. [i]), in contrast to the obligatory presence of *de* for a relative clause to the right of the classifier (cf. [ii]). The same holds for APs and possessor DPs which otherwise require *de*. To my knowledge, no account of this conditioned optionality of *de* has been proposed so far in the recent proposals for *de* (cf. a.o. Cheng and Sybesma 2009; Y.-H. Audrey Li 2007, 2012, to appear; Simpson 2001; C.-C. Jane Tang 2007; Niina Ning Zhang 2010); this also applies to my own work (cf. Paul to appear).

- (i) a. [_{DP}[_{TP} Ø_i mǎi xiǎo qìchē] (de) zhèxiē rén]
 buy small car SUB these person
 'the persons who bought a small car'
 b. [_{DP} zhèxiē [_{TP} Ø_i mǎi xiǎo qìchē] *(de) rén]
 these buy small car SUB person
 'the persons who bought a small car'
- (ii) a. zuì gāo (de) nà ge xuéshēng
 most tall SUB that CI student
 'the tallest student'
 b. nà ge zuì gāo *(de) xuéshēng
 that CI most tall SUB student
 'the tallest student'
- (iii) a. {Xiǎo Wáng/tā} (de) nà ge péngyou
 Xiao Wang/3SG SUB that CI friend
 'Xiao Wang's friend/ his friend'
 b. nà ge {Xiǎo Wáng/tā} *(de) péngyou
 that CI Xiao Wang/3SG SUB friend
 'this friend of Xiao Wang/ this friend of his'

with the absence or presence of *de* which are the motivation to posit the existence of two modification structures in Chinese, *de*-less modification and modification with *de*. As to be demonstrated in the course of this section, the special semantics associated with *de*-less modification has biased its syntactic analysis. In particular, the description provided by Sproat and Shi (1988, 1991), often cited as *the* source on adnominal modification in Chinese, is simply not correct (cf. Paul 2005a for detailed discussion).¹⁶ Nonetheless, it was this incorrect presentation that was taken up by linguists interested in adnominal modification from a typological perspective and that shaped their views on Chinese. Subsequently, the way Chinese was integrated into the general typological picture of adnominal modification then in turn served to confirm the preconceived ideas about adjectives in Chinese as verbs and of adjectival modifiers as relative clauses, which had been at the very basis of Sproat and Shi (1988, 1991) and which had fed the crosslinguistic comparison in the first place.

Before discussing *de*-less modification, I would like to get some basic facts straight concerning modification with *de*, given that the latter serves as the backdrop for every analysis of *de*-less modification.

At the very beginning of their article(s), Sproat and Shi (1988: 465; 1991: 565-566) provide examples such as (43) where each adjective is followed by *de*, A_1 *de* A_2 *de* N:

- (43) a. *xiǎo de fāng de zhuōzi*
 small SUB square SUB table
 ‘small square table’
 b. *fāng de xiǎo de zhuōzi*
 square SUB small SUB table
 ‘small square table’

Since according to them both orderings, (43a) and (43b), are fine, they note a clear contrast with English, where only the ordering indicated in the translation is possible (cf. *square small table). Given that without *de*, the order is fixed and the same as in English (cf. (44a)), they then conclude that the *de*-less modification structure is the relevant one to choose if one wants to investigate adjective ordering restrictions.

- (44) a. *xiǎo fāng zhuōzi*
 small square table
 ‘small square table’
 b. **fāng xiǎo zhuōzi*
 square small table

It is correct to state that the order is fixed in (44). (For the semantics associated with the *de*-less modification structure, cf. section 5.2.1 immediately below.) By contrast, the structure A_1 *de* A_2 *de* N (cf. [43a] and [43b], i.e. the very basis of their study, is at best marginal in Chinese (cf. Fu Jingqi (1987: 151, Lü et al. 1980: 159):

- (45) ??*Cōngmíng de rèqíng de gūniang hěn nán zhǎo* (cf. Fu Jingqi (1987: 151, (104))
 intelligent SUB kind SUB girl very difficult find
 (‘Intelligent and kind girls are hard to find.’)

Crucially, this structure is *not* an instance of the so-called *comma intonation*, where the adjectives are separated by a pause indicating their equal ranking rather than a hierarchy, as e.g. *square, small table* where accordingly the otherwise valid order ‘size > shape can be suspended. Quite on the contrary, the Chinese equivalent of the comma intonation in English has the form ‘ A_1 , A_2 *de* N’ with a pause between the first and the second adjective and *without* the subordinator *de* after the first adjective:

¹⁶ Their presentation of Persian (Arsalan Kahnemuyipour p.c.) and French is not correct, either.

- (46) *Cōngmíng, rèqíng de gūniang hěn nán zhǎo*
 intelligent kind SUB girl very difficult find
 ‘Intelligent, kind girls are hard to find.’

Importantly, as discussed in great detail by Fu Jingqi (1987: 151–157), the well-formed variants for a DP with two adjectives involve only one *de*, the two adjectives being coordinated and forming a single Adjectival Phrase (AP).

- (47) a. [_{AP} *Jì cōngmíng yòu rèqíng*]*de* *gūniang hěn nán zhǎo*¹⁷
 as.well intelligent as kind SUB girl very difficult find
 ‘Intelligent as well as kind girls are hard to find.’
 b. [_{AP} *Jì rèqíng yòu cōngmíng*]*de* *gūniang hěn nán zhǎo*
 as.well kind as intelligent SUB girl very difficult find
 ‘Kind as well as intelligent kind girls are hard to find.’

Given the coordination relation between the adjectives it is no surprise that they can be permuted, which produces the impression of free ordering with respect to the noun. However, this “freedom” only applies to the coordinated adjectives themselves within the AP. In other words, it is not clear at all whether the Chinese data warrant Sproat and Shi’s (1988, 1991) statement that adjective ordering in the modification structure with *de* is free in Chinese, i.e. does not have any semantic consequences.

5.2.1 The special semantics associated with the *de*-less modification structure

The interpretational differences between the modification structure with and without *de* as well as the semantic and syntactic constraints on the *de*-less modification structure are a long-standing issue in Chinese linguistics, as witnessed by the lively debate among Chinese linguists in the 1950s and 1960s (see Paris 1980 for a collection containing the translations of the most influential articles from that period). As mentioned at the outset of this chapter, the linguists back then simply took the category adjective for granted, and on this basis undertook the task of trying to pin down the subtle differences hinging on the presence and absence of *de* in modification structures (cf. [48] and [49]):

- (48) *cōngmíng (de_{sub}) háizi*
 intelligentSUB child
 ‘intelligent child(ren)’
 (49) *fāng (de_{sub}) pánzi*
 square SUB plate
 ‘square plate(s)’

To make a rather complicated story short, with the *de*-less modification structure, a new subcategory is established, which must present a natural, plausible class in the sense of Bolinger (1967) (cf. section 5.2.2 below). The modifier serves to single out the relevant subset of objects denoted by the NP, i.e. the modifier is presented as a defining property of the *resulting* new subcategory: *cōngmíng háizi* ‘intelligent children’, *fāng pánzi* ‘square plate’.

This explains why modifiers referring to an intrinsic property of the noun are excluded from the *de*-less modification structure: it is impossible to establish a new subcategory by using an intrinsic property of the category concerned, this intrinsic property holding for the hyperonym and for any of its subcategories alike:

¹⁷ As pointed out by Fu Jingqi (1987: 152), *jì...yòu* ‘both ... and’ exclusively coordinates adjectives. Accordingly, (47) exclusively refers to girls that simultaneously possess the two properties of being intelligent and kind.

- (50) **tián fēngmì*
sweet honey
- (51) **gāo mótiānlóu*
high skyscraper

When it does not indicate an intrinsic property of the head noun, the same adjective can be perfectly acceptable in the *de*-less modification structure:

- (52) *Wǒ zuì xǐhuan tián mántou*
1SG most like sweet steamed.bun
'I prefer sweet buns.'
- (53) *gāo jiànzhùwù/shuǐpíng*
high building / standard
'a high building/standard'

No such constraint holds for the modification structure with *de*, where adjectives are acceptable regardless of whether they denote an intrinsic property of the noun or not:

- (54) *tài tián de_{sub} fēngmì/mántou*
too sweet SUB honey/ steamed.bun
'too sweet honey/buns'
- (55) *zuì gāo de_{sub} mótiānlóu/jiànzhùwù*
most high SUB skyscraper/building
'the highest skyscraper/building'

The interpretational properties of the *de*-less modification structure in Chinese thus differ from the semantics associated with prenominal adjectives in Romance languages “where the property of the adjective is asserted to be part of the defining features of the object in question. [...] For instance, in *tes lisses cheveux* [‘your sleek hair’; WP], the hair is not merely described as sleek, it is defined as sleek, as if it could not be otherwise.” (Bouchard 1998: 145). Accordingly, adjectives referring to an inherent property typically occur in the prenominal position: French *la blanche neige* ‘the white snow’ vs. *la voiture blanche* ‘the white car’; Italian *dolce miele* ‘sweet honey’ vs. *vino dolce* ‘sweet wine’ (cf. Klein-Andreu 1983).

The interpretation of the sequence ‘adjective noun’ is more than a simple intersective one. For example, *hēi tóujīn* ‘black scarf’ in (57) is not meant to describe a scarf which happens to be black, but rather presents *hēi* ‘black’ as the defining property of the resulting subcategory of scarves. In *hēi de tóujīn*, however, the interpretation is purely intersective and *hēi* ‘black’ suggests a contrast with other modifiers as for example *bái* ‘white’ in *bái de tóujīn* ‘a white scarf’. This difference is admittedly a very subtle one and accordingly, most contexts allow both types of modification structures (cf. [56]). But as Fu Jingqi (1987) has shown, there also exist a few diagnostic contexts where only the *de*-less modification structure is allowed, as for example the identification context in (57):

- (56) *Tā bǎ hēi (de_{sub}) tóujīn sòng rén le* (Fu 1987: 302)
3SG BA black SUB scarf give people PART
'He gave (as a present) black scarves to people.'
- (57) *Zhè shì hēi (*de_{sub})tóujīn* (Fu 1987: 302)
this be black SUB scarf
'This is a black scarf.'

The examples by Tang Ting-chi (1979) and Zhu Dexi (1984) illustrate the same contrast (where the presence of *de* in e.g. [59] implies the contrast with a stupid person, who would be expected to act in a muddle-headed way):

- (58) *Nǐ shì ge cōngmíng rén , wǒ bù bī duō jiěshì*
 2SG be CL intelligent person 1SG NEG must much explain
 ‘You are somebody intelligent, I don’t need to explain a lot.’
 (Tang 1979: 147)

- (59) *Yī ge cōngmíng de_{sub} rén bù huì zuò*
 1 CL intelligent SUB person NEG will do
zhèyàng hǔtū de_{sub} shìqíng
 such muddle-headed SUB matter
 ‘An intelligent person would not do such a muddle-headed thing.’

- (60) a. *Xuéxiào yǒu yángé guīdìng* Zhu (1984: 11, (15, 16))
 school have strict rule
 ‘The school has strict regulations.’
 b. *Xuéxiào yǒu jǐ xiàng yángé de_{sub} guīdìng*
 school have several CL strict SUB rule
 ‘The school has several strict regulations.’

In the modification structure with *de*, a property is encoded as an accessory one, in the sense that this property is presented as not instrumental in establishing a new subcategory of N. It is important to note that this is not to imply that a property *presented* as accessory cannot be stable through time (in e.g. (56), *hēi-de tóujīn*, the scarf does not change its black colour and in (60b) the regulations remain strict). This point is especially clear in the case of modifiers referring to material, which in Chinese are nouns and which - like adjectives - may appear in the *de*-less modification structure:

- (61) *Zhāngsān yīgerén yī tiān kěyǐ zuò sān zhāng mùtóu (*de_{sub}) zhuōzi*
 Zhangsan alone 1 day can make 3 CL wood SUB table
 ‘Zhangsan on his own can make three wooden tables a day.’ (Fu 1987: 292)
 (62) *Tā bǎ mùtóu (de_{sub}) zhuōzi sòng rén le*
 3SG BA wood SUB table give people PART
 ‘He gave wooden tables to people.’ (Fu 1987: 302)

It would not make sense to state that to be made of wood is a transient property of a table. To state that in the modification structure with *de*, a property is encoded as an accessory one is just meant to capture the fact that this property is not chosen by the speaker as one singling out a subcategory. Accordingly, individual-level as well as stage-level predicates are acceptable in both modification structures, with and without *de* (cf. [16] – (27)); it is the absence or presence of *de* which determines the interpretation of a given property as an accessory or rather a defining one. Note that the *de*-less modification structure can both refer to tokens of the new subcategory (cf. [61] – [64]) and to the new subcategory as kind (cf. (65) – [66]):

- (63) *yī jiàn zāng/ piàoliang/ gānjìng yīfu* (= [16] above)
 1 CL dirty/ pretty / clean dress
 ‘a dirty/pretty/clean dress’
 (64) *yī ge qíguài xiànxàng* (= [17] above)
 1 CL strange phenomenon
 ‘a strange phenomenon’

(65) *juémì wénjiàn*
top-secret document
'top-secret documents'

(66) *yángé guīdìng*
strict rule
'strict rules'

To summarize, unlike verbs (of any class), adjectives and nouns can function as modifiers in the *de*-less modification structure. Recall that adjectives are different from nouns in that they do not appear in the copulative structure.

5.2.2. Constraints governing the *de*-less modification structure

The preceding discussion evidently is not meant to imply that any property can be presented as a defining characteristic via *de*-less modification. For as observed by Zhu Dexi (1956/80: 9-10) and many others after him, the semantic properties of the head noun likewise play a role,:

(67) a. *cōngmíng rén / háizi*
intelligent person/child
'an intelligent person/child'

b. **cōngmíng dòngwù*
intelligent animal

(68) a. *zāng yīfu*
dirty clothing
'dirty clothing'

b. **zāng táng*
dirty candy

(69) a. *bái zhǐ / tóufa*
white paper/hair
'white paper/hair'

b. **bái shǒu*
white hand

(70) a. *guì dōngxī*
expensive thing
'expensive things'

b. **guì dàngāo*
expensive cake

But for most dimensions ranging from e.g. material, colour, shape to size etc. there exists a choice as to whether they can be encoded as defining or rather accessory properties.¹⁸ Recall that the *de*-less

¹⁸ Non-intersective adjectives are a notable exception, for they always require *de*:

(i) *běnlái *(de) yìsì*
original SUB meaning
'the original meaning'

(ii) *yǐqián/ jiānglái *(de) xiàozhǎng*
former/ future SUB school president
'the former/future school president'

modification structure gives rise to the interpretation of the ‘A/N N’ sequence as (a designation for) a newly created subcategory, in other words, the ‘A/N N’ sequence has to result in a natural, plausible classification. In my opinion, it is this constraint which explains why *de*-less modification is not always possible.

This state of affairs is reminiscent of the restrictions governing the distribution in prenominal vs. postnominal position for adjectives in English investigated by Bolinger (1967). Provided that both positions are potentially available for a given adjective, the adjective is interpreted as a characteristic property in the prenominal position, and as an occasional, temporary property in the postnominal position:

- (71) a. *the only navigable river*
b. *the only river navigable*

- (72) a. *Who were the guilty people?*
b. *Who were the people guilty?* (Bolinger 1967: 4)

As Bolinger (1967: 4) states “[...] *the only river navigable* is unambiguously occasional, *the only navigable river* unambiguously characteristic. Similarly with *Who were the guilty people?*, which characterizes and classifies, vs. *Who were the people guilty?*, which relates the guilt to an occasion.”

Bolinger (1967) also comments extensively on the fact that the acceptability of an adjectival phrase in the prenominal position is difficult to predict, because it largely depends on pragmatic factors i.e., on whether the resulting NP is conceived of as a (culturally) relevant characterization. Discussing the reason why unlike *ill-behaved child* and *home-loving man*, **mistake-erasing secretary* and **husband-waking wife* are unacceptable, he says: “These must wait the day when we have some interest in characterizing secretaries as mistake-erasing and wives as husband-waking.” (Bolinger 1967: 7). Accordingly, there exist numerous “irregularities”: e.g. *your absent friend* is acceptable, while **your present friend* is not; the same holds for *deposited money* vs. **withdrawn money* (Bolinger 1967: 9, 11). Conversely, it is not excluded that a former exclusively temporary modifier becomes acceptable in the prenominal position, “if the situation is such that nouns are distinguished by it” (Bolinger 1967: 11): *the then president* vs. **the now president*, or *a nearby building* vs. **a nearby bus*.

The same unpredictability as to what counts as a natural, plausible classification stated for English by Bolinger equally holds for Chinese and explains the “gaps” observed for *de*-less modification: *bái tóufa* ‘white hair’, but not **bái shǒu* ‘white hand’, *cōngmíng rén/háizi* ‘intelligent person/child,’ but not **cōngmíng dòngwù* ‘intelligent animal’, *pàng rén* ‘fat person’, but not **shòu rén* ‘skinny person’, etc.¹⁹

5.2.3. The phrasal status of the *de*-less modification structure

The requirement to obtain a natural, plausible classification and the resulting impossibility of predicting the acceptability for a given *de*-less modification structure, as well as the special semantics associated with the *de*-less modification structures have often been mis-interpreted as arguments for compound status i.e. for ‘A N’ being a word, N°, rather than a noun phrase (cf. among others Sproat & Shih 1988, 1991; Duanmu 1998; Aoun & Li 2003: 149). It is true that Chinese displays a large number

-
- (iii) *mùqián* **(de) qíngkuàng*
present SUB situation
‘the present situation’

¹⁹ It is this unpredictability of what counts as a natural, plausible classification which is at the origin of the not always homogeneous acceptability judgements for *de*-less modification structures. The following observation made by Monique Hoa (p.c.) sheds some light on the role that context may play here as a means of establishing a new subcategory whose relevance might not be immediately accessible to other speakers (thereby confirming Bolinger’s (1967) view). Commenting on the unacceptability of (57b) above, **cōngmíng dòngwù* ‘intelligent animals’, she notes that this sequence might become acceptable after the difference between intelligent animals (*cōngmíng de dòngwù*) and non-intelligent animals (*bù cōngmíng de dòngwù*) has been introduced in the preceding discourse; to continue with *cōngmíng dòngwù* ‘intelligent animals’ as a new subcategory relevant in the given situation then becomes possible.

of ‘A-N’ and N-N’ compounds such as *xiǎo-fèi* ‘small-cost’ = ‘tip’, *dà-yī* ‘big-coat’ = ‘overcoat’, *hóng-huā* ‘red-flower’ = ‘safflower’ (plant used in traditional Chinese medicine), *chá-huā* ‘tea-flower’ = ‘camelia’, *lóng-tóu* ‘dragon-head’ = ‘tap’, *huǒ-chē* ‘fire-vehicle’ = ‘train’ etc. However, there are several tests to show that *de*-less modification structures possess clearly different properties from compounds and must be analysed as phrases.

First, it is well-known that the internal structure of compounds, i.e. of words, is inaccessible to syntactic rules (*Lexical Integrity Hypothesis* (LIH)).²⁰ This is illustrated in (74) - (77) where the head noun inside the [A-N] compound (e.g. *lǜ-chá* ‘tea’ in [74]) is not visible for the rule operating on the phrasal level and allowing an empty noun in the subsequent DP. (73) shows the application of this rule to DPs with *de* (whose phrasal status is beyond doubt).²¹

- (73) $[_{DP} Wǒ \text{ de } xínglǐ] \text{ zài } shàngbian, [_{DP} nǐ \text{ de}_{sub} \emptyset] \text{ zài } xiàbian$
 1SG SUB luggage be.at top 2SG SUB be.at bottom
 ‘My luggage is on top, yours is below.’

- (74) a. $Wǒ \text{ xǐhuān } [_{N^0} lǜ \text{ -}chá], [_{N^0} hóng\text{-}chá] \text{ yě } kěyǐ$
 1SG like green-tea red -tea also possible
 ‘I like green tea, but black tea is also ok.’

- b. * $Wǒ \text{ xǐhuān } [_{N^0} lǜ \text{ -}chá], [_{DP} hóng \text{ de}_{sub} \emptyset] \text{ yě } kěyǐ$
 1SG like green-tea red SUB also possible

²⁰ As shown by C.-T. James Huang (1984a: 61.), Chinese (cf. [i], [ii]) – unlike German (cf. [iii]) – does not allow subparts of a word to be conjoined:

- (i) $[_{N^0} huǒ\text{-}chē] \text{ gēn } [_{N^0} qì \text{-}chē]$ (= Huang 1984: 60; [13a-b])
 fire-vehicle and gas-vehicle
 ‘train(s) and car(s)’
 (ii) * $[_{N^0} huǒ \text{ gēn } qì] \text{ chē}$
 fire and gas vehicle
 (iii) *Filz- und Stroh-hüte*
 felt and straw-hats
 ‘felt hats and straw hats’

Huang (1984a: 61) equally observes that subparts of a word are not visible to interpretation rules; accordingly, (iv) is *not* rejected as contradictory:

- (iv) $yī \text{ kuài } lǜsè \text{ de } [_{N^0} hēi \text{ -}bǎn]$
 1 CL green SUB black-board
 ‘a green blackboard’

Lu Zhiwei (1975: 32) makes the same observation; he states that the acceptability of (v) forces us to conclude that *xiǎo-hái* ‘small-child’ = ‘child’ is a word, N^0 . Also note that *-hái-* ‘child’ is a bound morpheme.

- (v) $dà [_{N^0} xiǎo \text{ -}hái]$
 big small-child
 ‘a big child’

²¹ Following current practice in the literature, the term NP is used here not only for simple noun phrases such as *shu* ‘book’, but as a cover term for nominal projections in general, i.e. proper names (*Lǐsì*), modified NPs (*Lǐsì de shū* ‘Lisi’s book’, *hěn guì de shū* ‘very expensive books’), and quantified NPs (*hěn duō shū* ‘many books’, *sān běn shū* ‘3 CL book’ = three books) etc. When presenting a structural analysis where more precision is asked for, both the terms NP and *Determiner Phrase* (DP) are used. The term DP was introduced by Abney (1987) in order to capture the fact that in nominal projections with an article or a demonstrative pronoun such as *that book*, *the students*, it is in fact *that* or *the* instantiating the functional category *Determiner* that head the projection and select the noun phrase as complement. Since then, numerous additional functional categories have been posited below the *Determiner* projection (cf. a.o. Scott 1998, 2002a,b and the papers in Cinque 2002). For the purposes of this book, I use the term DP for nominal projections containing the subordinator *de* or a demonstrative pronoun (*zhè* ‘this’, *nà* ‘that’); otherwise the label NP in its extended coverage is used. For further discussion of the architecture within the nominal projection of Chinese, cf. Y.-H. Audrey Li 1996, 1998, 1999 and Huang, Li and Li (2009, chapter 8).

- (75) b. *Wǒ xǐhuān chī* [_{N°} *xiǎo –báicài*], *yě xǐhuān* [_{N°} *dà–báicài*]
 1SG like eat small–Chinese.cabbage also like big–Chinese.cabbage.
 ‘I like to eat pakchoi [= a variety of Chinese cabbage],
 and I also like to eat Chinese cabbage.’
- b. **Wǒ xǐhuān chī* [_{N°} *xiǎo –báicài*], *yě xǐhuān* [_{DP} *dà de_{sub} Ø*]
 1SG like eat small–Chinese.cabbage also like big SUB
- (76) a. *Wǒ yǐjīng mǎi-le* [_{N°} *xiǎo -cōng*], *hái yào mǎi* [_{N°} *dà- cōng*]
 1SG already buy–PERF small-onion still wantbuy big- onion
 ‘I already bought shallots, I still want to buy Chinese onions.’
- b. **Wǒ yǐjīng mǎi-le* [_{N°} *xiǎo –cōng*], *hái yào mǎi* [_{DP} *dà–de_{sub} Ø*]
 1SG already buy–PERF small-onion still wantbuy big–SUB
- (77) **Amēi bù xiǎng chī* [_{N°} *hóng-huā*], [_{DP} *huáng de_{sub} Ø*] *hái kěyǐ*
 Amei NEG want eat red -flower yellow SUB still acceptable
 (‘Amei doesn’t want to take safflower [as medicine], yellow ones are still ok.’)

Importantly, the LIH holds regardless of whether the meaning of the compound is (relatively) compositional (cf. [74]) or completely opaque (cf. [77]); it is therefore not feasible to reduce the effects of the LIH observed above to the semantic opacity of the compounds at hand.

In *de*-less modification structures *qua* noun phrases, however, the head noun is visible to phrase-level rules and accordingly, an identity relation can be construed with the noun in a subsequent DP, thus licensing an empty noun in the latter.

- (78) *Wǒ juéde* [_{NP} *huáng chènshān*] *bǐ* [_{DP} *hóng de_{sub} Ø*] *hǎokàn*
 1SG think yellow shirt compared:to red SUB pretty
 ‘I think that yellow shirts are prettier than red ones.’
- (79) *Wǒ bù xǐhuān* [_{NP} *yuán pánzi*], [_{DP} *fāng de_{sub} Ø*] *hái kěyǐ*
 1SG NEG like round plate square SUB still acceptable
 ‘I don’t like round plates, square ones are still ok.’
- (80) *Bù mǎi* [_{NP} *dà pángxiè*], *mǎi* [_{DP} *xiǎo de_{sub} Ø*]
 NEG buy big crab buy small SUB
 ‘Don’t buy a big crab, buy a small one.’

Note that *de* is obligatory in a modified DP with an empty noun (also cf. Y.–H. Audrey Li 2007). This makes sense in an analysis where *de* as head selects this NP as its complement, and where the modifier XP occupies the specifier position of the projection headed by *de*, i.e. DeP: [_{DeP} XP [*de* NP]] (cf. Paul to appear for further discussion).²² In other words, the sequence ‘XP *de* Ø’ is not a case of a headless NP as often assumed, but rather instantiates a DeP with a covert NP complement.

Examples (78) – (80) are thus on a par with (81): there is no *de* in the first NP, the subordinator *de* being optional in the case of pronouns as modifiers of kinship terms (cf. [82] vs. [83]); in the second nominal projection of (81), by contrast, *de* is obligatory, due to the presence of a covert NP complement.

²² More precisely, in Paul (to appear) it is the EPP feature of *de* that forces the specifier position of DeP to be always filled. Consequently, there is no movement of the modifier XP to Spec,DeP and DeP is a head-initial projection (*contra* Simpson 2001, among others). The co-occurrence of several *de*’s within the same nominal projection is accounted for by analysing them as realizations of different heads on the D-spine with a partially non-identical feature make-up. For alternative analyses of *de*, cf. the references in note 15 above, the critical overview in Paul (2012) as well as the articles in Tang Sze-Wing (to appear).

- (81) *Tā gēgē bǐ [DP wǒ *(de) Ø] gāo*
 3SG younger.brother compared.to 1SG SUB tall
 ‘His younger brother is taller than mine.’
- (82) *Tā / wǒ (de) gēgē*
 3SG/ 1SG SUB younger.brother
 ‘his/my younger brother’
- (83) *Zhāngsān *(de) gēgē*
 Zhangsan SUB younger.brother
 ‘Zhangsan’s younger brother’

The (un-)acceptability of an empty noun allows us to distinguish between the ‘A N’ sequences in (74) – (77), on the one hand, and those in (78) – (80), on the other: *lǜ-chá* ‘green tea’, *xiǎo-báicài* ‘pakchoi’, *xiǎo-cōng* ‘shallots’, *hóng-huā* ‘safflower’ illustrate compounds, whereas *huáng chènshān* ‘yellow shirt(s)’, *yuán pánzi* ‘round plate(s)’, *dà pángxìe* ‘big crab(s)’ are clearly phrases.

Another difference between ‘A-N’ compounds and ‘A N’ phrases is provided by the fact that ‘A-N’ compounds are not subject to the constraint observed for *de*-less modification structures, viz. to result in a natural, plausible classification. Thus, compounds with three modifiers are well attested and do not result in divergent judgements (cf. [84] – [86]).

- (84) [_{N°} *yōu -liáng-zhōng -chéngjī*] (Xu & Liu 1999: 99)
 excellent-good-average-result
 ‘excellent, good and average results’
- (85) [_{N°} *dà-zhōng -xiǎo -xué*]
 big-middle-small -school
 ‘educational institutions (i.e., primary school, middle school and university)’
- (86) [_{N°} *guān-yà -jì -jūn*]
 best -second -third-rank
 ‘the first, second and third rank’

By contrast, *de*-less modification structures with more than two modifiers are very rare and are not uniformly judged acceptable. While according to Xu & Liu (1999), (87) is well-formed, several native speakers rejected (87) as soon as the third modifier *hēi* ‘black’ was added. This is due to the fact that a natural, plausible classification is the more difficult to obtain the more modifiers are present:

- (87) [_{NP} *xiǎo shòu (??hēi) gēbo*]
 small skinny black arm
 ‘a small skinny black arm’

Also note that in contrast to the adjectives in the [_{N°} A–A–A–N] compounds, the modifiers in the *de*-less modification structure are interpreted as stacked. In other words, a *de*-less structure ‘A N’ is in turn modified by another adjective, giving rise to [_{NP} A [_{NP} A N]], which in principle might be modified by another adjective, resulting in the *de*-less modification structure [_{NP} A [_{NP} A [_{NP} A N]]].

Finally, adjective ordering restrictions (cf. Sproat & Shih 1988, 1991) may also serve as a diagnostic to distinguish between ‘A-N’ compounds such as [_{N°} *dà-guàr*] ‘unlined long gown’ (cf. [89]), on the one hand, and the phrasal *de*-less ‘A N’ modification structures such as [_{NP} *dà pánzi*] ‘big plate’ (cf. [88]), on the other. Feng Shengli (2001) observes that when a modifier such as e.g. *bái* ‘white’ is added, different ordering patterns obtain for the compound and the NP:

- (88) a. [_{NP} *dà bái pánzi*]
 big white plate
 ‘a big white plate’

- b. *[_{NP} *bái dà pánzi*]
white big plate
- (89) a. [_{NP} *bái* [_{N°} *dà-guàr*]]
white big-gown
'a white unlined long gown'
- b. **dà-bái guàr*
big white gown

Given that the ordering restrictions for modifiers apply in syntax, i.e. word-externally, and that a modifier relating to colour must be nearer to the head noun than a modifier relating to size, he concludes that *dà-guàr* 'unlined long gown' is a compound. Its internal structure is invisible to the ordering restrictions, hence the acceptability of (89a); (89b), on the other hand, is ungrammatical due to a violation of the *Lexical Integrity Hypothesis*. The NP *dà-bái pánzi* 'big white plate' in (88a), however, obeys the ordering restrictions 'size > colour' applying in syntax and therefore must be distinguished from compounds like *dà-guàr*. His observation thus confirms the contrast established between A-N compounds, on the one hand, and phrasal *de*-less 'A N' modification structures, on the other.

5.2.4. Interim summary

In the preceding sections, I have argued that the *de*-less modification structure is a phrase, not a compound (*contra* Sproat & Shih 1988, 1991; Duanmu 1998; Aoun & Li 2003: 149, among others). This result is important insofar as it leads to the conclusion that both types of modification, with and without *de*, have to be taken into account for typological studies of adjectival modification, *contra* Sproat & Shih's (1988, 1991) claim that only the *de*-less modification structures are relevant.²³

The constraint governing the acceptability of a *de*-less modification structure and giving rise to unpredictable "gaps" - an issue having preoccupied Chinese linguists since the 1950's - has turned out to be of a semantico-pragmatic nature similar to the constraint observed for English by Bolinger: a *de*-less modification structure must result in a natural, (culturally) plausible classification. Since the *de*-less modification structure establishes a new subcategory (with the modifier presented as its defining property), it is evident that intrinsic properties are excluded here, because they hold both for the hyperonym and any of its subcategories. In this respect, Chinese *de*-less modification structures clearly differ from structures with prenominal modifiers in Romance languages.

Last, but not least, the fact that predicative adjectives as well as non-predicative adjectives can appear in both types of modification structures challenges the family of proposals that derive all modifiers from underlying predicates. For if this approach were correct, we would expect predicative adjectives to exclusively occur in the modification structure with *de* (*de* being obligatory for relative clauses), whereas non-predicative adjectives would be predicted not to function as modifiers at all, a prediction not borne out by the Chinese data.

5.3. Morphology that meets the eye: Evidence for two classes of adjectives in Chinese

Having established adjectives as a separate category in Chinese allows us to take a fresh look at reduplicated adjectives (e.g. *gāngānjìngjìng* '(thoroughly) clean') and to acknowledge them as members of a second class of adjectives distinct from simple adjectives (e.g. *gānjìng* 'clean'). While adjectival reduplication has been described in great detail in the literature in Chinese, these descriptions have mainly concentrated on simply listing the properties of simple vs. reduplicated

²³ As discussed in detail in Paul (2005a), Sproat & Shih (1988: 474, 477) apparently do not see any contradiction between assigning compound i.e., word status to *de*-less modification structures and their claim that ordering restrictions only apply to *de*-less modification structures. If Sproat & Shih were right and the *de*-less 'A (A) N' sequences were really words, i.e. N°, the impossibility of inverting the order of the adjectives would simply be due to the fact that word-internal structure is inaccessible to phrase level rules, and accordingly would not reveal anything about the (non-) existence of ordering restrictions in Chinese.

adjectives.²⁴ Accordingly, the semantic and syntactic differences observed have not been interpreted as what they really are, i.e. as arguments in favour of reduplication of adjectives as a genuine morphological process resulting in a *new* class of derivatives. Instead, Zhu Dexi (1956/80: 6) in his important article on adjectives explicitly subsumes - under one and the same grammatical category - the so-called “base forms”, instantiated by simple adjectives such as *gānjìng* ‘clean’, and the so-called “complex forms”, instantiated by e.g. reduplicated adjectives such as *gāngānjìngjìng* ‘(thoroughly) clean’.

Furthermore, none of the typologically oriented studies (cf. a.o. Tang Sze-Wing 1998, Jimmy Lin 2004, Scott 2002b) ever takes reduplicated adjectives into account, which does not prevent Tang Sze-Wing (1998) and Jimmy Lin (2004) to make the farreaching – and for that matter wrong – claim that adjectives and stative verbs are to be conflated into one class in Chinese. Finally, the monograph by Packard (2000) on morphology in Chinese does not examine reduplication of adjectives at all and only mentions it in passing (p. 249).

As to be argued for in the remainder of this section, adjectives are not only a separate part of speech from (stative) verbs, but within the category of adjectives, simple adjectives and reduplicated adjectives belong to two distinct morphological classes, each of which is associated with a predictable set of semantic and syntactic properties.

5.3.1. Reduplication as a morphological process

As to be expected from a morphological process, adjectival reduplication is sensitive to word-internal structure.²⁵ Thus, while the general reduplication pattern for a bisyllabic adjective noted as ‘AB’ is [_A° AABB] (cf. [90]), it is [_A° ABAB] for ‘modifier-adjectival head’ compounds such as *xuě-bái* ‘snow-white’ = ‘as white as snow’ (cf. [91]):

AB => AABB:

(90) a. *piàoliang* ‘pretty’ => *piàopiàoliàngliàng*;²⁶

b. *gāoxìng* ‘happy’ => *gāogāoxìngxìng*;

c. *qīngchu* ‘clear’ => *qīngqīngchǔchǔ*;

AB => ABAB:²⁷

(91) a. *xuě-bái* ‘snow-white’ = ‘as white as snow’ => *xuěbáixuěbái* ‘snow-white’;

²⁴ There is not much literature on adjectival reduplication in Mandarin Chinese accessible to non-sinologists: Chao 1968: 205-10; Hu Mingyang 1983, Karl 1993, Tang Ting-chi 1997, and more recently Yang-Drocourt (2008) as well as C.-S. Luther Liu (2013). Li & Thompson’s (1981: 32 – 34) section on reduplication cannot be recommended, because it is for a large part factually incorrect. The ensuing discussion of reduplication has greatly benefited from extensive discussions with Zhitang Yang-Drocourt.

²⁵ Reduplicated adjectives are different from onomatopoeia, where the original form is repeated as a whole, in general two to three times (cf. Chao Yuen Ren 1968: 210):

(i) *pūtōng, pūtōng (pūtōng)* ‘splash, splash’

(ii) *dīngdāng, dīngdāng (dīngdāng)* ‘ding-dong’

(iii) *dā dā (dā)* ‘hammering, pounding sound’ (e.g. of a typewriter, machine guns etc.)

²⁶ As illustrated in (90a) and (90c), the lexical tone for *-liang* and *-chu* re-emerges in the reduplicated form, while in the simple form both are in the neutral tone, indicated by the absence of a tone mark in the transliteration.

²⁷ Recall from section 5.1.2 above that in the repetition of the verb, the second syllable is in the neutral tone, hence [_V A^TB⁰] [_V A^TB⁰], and therefore different from the adjectival reduplication here: [_A A^TB^TA^TB^T]. Furthermore, in the repetition of the verb, the first verb can be suffixed with e.g. the perfective aspect *-le*, another difference with respect to the reduplication of modifier-adjectival head compounds:

(i) *Zhèi ge wèntí , wǒmen yánjiū-le yánjiū*
this CL problem 1PL study-PERF study
‘This problem, we have studied it a bit.’

- b. *bǐ-zhí* ‘brush-straight’ = ‘perfectly straight’ => *bǐzhíbǐzhí*;
- c. *gǔn-rè* ‘roll-hot’ = ‘scalding hot’ => *gǔnrègǔnrè*;
- d. *tōng-hóng* ‘all-red’ = ‘red, scarlet’ => *tōnghóngtōnghóng*;

Furthermore, reduplication is blocked in the cases of *monomorphemic* disyllabic adjectives (cf. Tang Ting-chi 1997: 320). This holds both for ‘native’ adjectives (cf. (92)) and for phonetic borrowings from other languages (cf. (94)):

(92) a. *yǎotiǎo* ‘graceful, gentle’ => **yǎoyǎotiǎotiǎo*²⁸

b. *línglóng* ‘exquisite’ => **línglínglónglóng*

c. *tángtū* ‘brusque’ => **tángtángtūtū*

d. *miáotiao* ‘slender’ => **miáomiáotiaotiao*

(93) a. *módēng* ‘modern’ => **mómódēngdēng*

b. *yōumò* ‘humorous’ **yōuyōumòmò*

When an initially monomorphemic disyllabic adjective has been reanalysed as consisting of two morphemes (*backformation*), reduplication is possible. Again, backformation and the ensuing possibility of reduplication is available both for ‘native’ adjectives (cf. [94a]) and for phonetic borrowings (cf. [94b]):

(94) a. *hútu* ‘confused, bewildered’ => *húhútútú* (cf. Lu Zhiwei 1975: 18)

b. *làngmàn* ‘romantic’ => *lànglàngmànmàn*
(a phonetic borrowing of *romantic*)

Besides the AABB and ABAB reduplication pattern, there exist other patterns of partial reduplication, associated with a special type of connotation. The pattern ‘*AliAB*’ always carries a negative connotation (cf. [96]), whereas the (total reduplication) patterns ‘*AA*’ and ‘*AABB*’ can be associated with either a positive, neutral, or negative connotation (cf. [95]):

(95) a. *luàn* ‘chaotic’ => *luànlànlàn* ‘chaotic’ (but less so than *luàn*)

b. *bái* ‘white’ => *báibái* ‘(thoroughly) white’

c. *cháng* ‘long’ => *chángcháng* ‘long’

(96) a. *hútu* ‘confused, bewildered’ => *húlihútu* ‘muddle-headed’
(vs. *húhútútú* ‘confused, bewildered’)

b. *mǎhu* ‘casual, careless’ => *mǎlimǎhu* ‘careless, sloppy’
(vs. *mǎmǎhǔhǔ* ‘not bad, still ok’)

²⁸ Naturally, the reduplication as [_A° ABAB] is equally excluded for all of these disyllabic monomorphemic adjectives (e.g. *_A° yǎotiǎoyǎotiǎo ‘graceful’), because reserved for adjectives with the word-internal structure ‘modifier head’.

In the reduplication pattern ‘ABB’, ‘BB’ provides a metaphoric description of the property denoted by the adjective (cf. Karl 1993: 287):

(97) a. *bái-huā-huā* ‘white-flower-flower’ = ‘shining white’

b. *bái-xuě-xuě* ‘white-snow-snow’ = ‘as white as snow’

(98) a. *hēi-yóu-yóu* ‘black-oil-oil’ = ‘jet-black, shiny black’

b. *hēi-yā-yā* ‘black-press-press’ = ‘dense, dark’
(said of e.g. people in a crowd)

The semantics associated with reduplication is hard to capture and even more difficult to translate, which is the reason why it is not systematically rendered in the examples provided here. For reasons of space, I only sketch very briefly the interpretational effects of reduplication and for more extensive discussion refer the reader to Yang-Drocourt (2008) and C.-S. Luther Liu (2013) as well as the numerous references therein.

Adjectival reduplication mainly involves the speaker’s subjective evaluation of the property expressed by the adjective. It does *not* have a quantitative effect, i.e. it does not convey a high or maximum degree of a given property; accordingly, is not appropriate to translate a reduplicated adjective by ‘very + adjective’. On the contrary, as pointed out by Zhu Dexi (1956: 108), the most productive pattern of adjectival reduplication, i.e. ‘AA(BB)’ indicates that the degree of a given property is exactly as it should be (*qià dào hǎochu* ‘appropriate up.to good’ = ‘just right’). This connotation is neatly rendered by Chao (1968: 209) who translates (99) as ‘nice and high slits’ and adds that this is “a form of description which one would not use if one did not approve of such dresses.

(99) *gāogāo de kèn*
high SUB slit
‘nice and high slits’

Another important point is that adjectives referring to properties perceptible to the senses such as *pàngpàngde* ‘fat_{REDUPL}’, *tiántiánde* ‘sweet_{REDUPL}’, *xiāngxiāngde* ‘fragrant_{REDUPL}’, *ruǎnruǎnde* ‘soft_{REDUPL}’ are more likely to have a reduplicated form than e.g. adjectives referring to mental states not readily discernible, such as **tāntānde* ‘greedy_{REDUPL}’ and **cōngcōngmíngmíngde* ‘intelligent_{REDUPL}’ (cf. Tang Ting-chi 1988 among others).

Finally, reduplicated adjectives are typical of the spoken language, but they are also used in the literature for rhetorical purposes or as a means to create a personal style.

5.3.2. Derived adjectives as a distinct class

In order to obtain the full picture, another observation needs to be taken into account, viz. the fact that modifier-head adjectival compounds such as *xuě-bái* ‘snow-white’ = ‘as white as snow’ in their *non*-reduplicated form pattern with reduplicated adjectives, and not with simple adjectives. As will emerge from the ensuing discussion, this is in fact the expected result, given the syntactic and semantic properties of modifier-head compounds.²⁹ In the remainder of the section, I therefore use the label *derived adjectives* for the class comprising reduplicated adjectives (with total or partial reduplication) as well as modifier-head compounds (be they reduplicated or not), in contrast to the class of *simple adjectives*.

²⁹ Chinese linguists (e.g. Zhu Dexi 1956/80) have always subsumed reduplicated adjectives and head-modifier adjectives (both in their non-reduplicated and reduplicated form) under the same class of ‘complex forms’, without however giving an explicit motivation for this at first sight surprising classification. Cf. Paul (2006) for demonstrating that it is the unacceptability in the *de*-less modification structure of reduplicated and head-modifier adjectives (both in the non-reduplicated and the reduplicated form) (cf. section 5.3.4 below) that constitutes the reason for including them in the same class.

In general, derived adjectives can have all of the following three functions: attributive, predicative, and adverbial (with the exception of reduplicated modifier-head compounds which cannot function as adverbs):

- (99) a. *gāogāoxìngxìng de hái zi*
happy SUB child
'happy children'
- b. *Tā gāogāoxìngxìngde*³⁰
3SG happy
'He is happy.'
- c. *Tā gāogāoxìngxìngde chàngē*
3SG happy sing song
'He is singing happily.'
- (100) a. *hǎohǎo de bǐ*
good SUB pen
'a perfectly good pen'
- b. *Wǒ zuótiān hái hǎohǎode, jīntiān jiù bìngdǎo le*
1SG yesterday still good today then be.ill PART
'Yesterday, I still felt ok, but today I'm ill.'
- c. *Nǐ hǎohǎode gēn tā shuō, bié shēng qì*
2SG good with 3SG talk NEG produce air
'Talk to him nicely and don't get angry.'
- (101) a. *tōnghóng(tōnghóng) de liǎn*
scarlet SUB face
'a scarlet face'
- b. *Tā de liǎn tōnghóng(tōnghóng)de*
3SG SUB face scarlet
'His face was scarlet.'

³⁰ Note that in the case of reduplicated adjectives, *de* is part of the reduplicated form itself; accordingly, sentences (99b) – (101b), (103) – (104), where the reduplicated form functions as a predicate, cannot be analysed as cases of predication with *shi...de* (cf. [4a], [5a] above) from which *shi* would have been dropped. When a reduplicated adjective functions as a modifier as e.g. in (99a), I assume haplology between the *de* of the reduplicated adjective and the subordinator *de* into one surface *de*, similar to the generally acknowledged haplology of the sentence-final complementiser *le* with the perfective verbal suffix *-le* in case the verb occupies the sentence-final position: *V-le le # => V le #* (cf. Chao Yuen Ren 1968: 247). Evidence for the haplology of the reduplication *de* with the subordinator *de* comes from Chinese dialects where these two *de*'s are phonologically different and can hence co-occur (cf. Zhu 1993).

The exact role and distribution of *de* in the reduplicates is far from clear. Lü Shuxiang et al. (1980/2000) only note that *de* is optional for 'AABB' reduplicates when functioning as the so-called descriptive complement introduced by *de* (Note that this *de* is different from those already encountered and has so far not been analysed satisfactorily):

- (i) *Tā shōushi de zhěngzhěngqíqí(de)* (Lü et al. 1980: 719)
3SG tidy DE neat
'He tidied up very neatly.'

The data furthermore suggest that non-reduplicated modifier-head adjectival compounds such as *xuě-bái* 'snow-white' preferably appear without *de*, though this cannot be generalized and also varies from speaker to speaker.

- (102) a. *bǐ -zhí de shù-gàn*
brush-straightSUB tree-trunk
'perfectly straight tree trunks'
- b. *Gōnglù bǐ -zhí*
highway brush-straight
'The highway is perfectly straight.'
- c. *Tā bǐzhíde zhàn zài lǎoshī de qiánmiàn*
3SG perfectly.straight stand at teacher SUB front
'He is standing perfectly straight in front of the teacher.'
- (103) *Liǎn cháng-chángde, yáchǐ yě cháng-chángde* Zhū Déxī (1956/80: 11)
face long -long tooth also long -long
'The face is long, and the teeth are long, too.'
- (104) *Tiān yǐjīng hēi -hūhūde le*
sky already dark-HUHU PART³¹
'The sky is already dark.'

Unlike simple adjectives, derived adjectives cannot appear in the comparative construction and are incompatible with degree adverbs such as *fēicháng* 'very', *tèbié* 'particularly' etc. Adverbs such as *zhème*, *nàme* 'this/that way; so, such' are, however, acceptable (and for some native speakers also *tài* 'too', cf. [106]):

- (105) *Tā de yīfu bǐ nǐ de*
3SG SUB clothes compared.to 2SG SUB
*gèng bái / gèng gānjìng /*báibáide/*gāngānjìngjìngde/*xuě -bái*
even.more white/even.more clean / white / clean / snow-white
'His clothes are (even) cleaner/whiter/*more snow-white than yours.'
- (106) *Tā fēicháng pàng/*fēicháng pàngpàngde /#tài pàngpàngde*
3SG extremely fat /extremely fat / too fat
'He is very fat/too fat.'
- (107) **Tā de liǎnsè tèbié tōnghóng(tōnghóngde)*
3SG SUB complexion particularly scarlet
'(His face is particularly scarlet.)'
- (108) *Tā de liǎnsè wèishénme nàme tōnghóng(tōnghóngde)?*
3SG SUB complexion why that.way scarlet
'Why is his face so red?'
- (109) *Lǎo zhème màn-tēngtēngde kě bù xíng*³²
always this.way slow-TENGTENG really NEG possible
'It's impossible to be always so sluggish.'

Derived adjectives cannot be negated by *bù*:

- (110) *Tā bù pàng /*bù pàngpàngde*
3SG NEG fat / NEG fat
'He is not fat.'

³¹ No meaning is associated with *hūhū* on its own.

³² No meaning is associated with *tēngtēng* on its own

- (111) Tā de yīfu bù gānjìng/*bù gāngānjìngjìngde/*bù xuěbái(xuěbáide)
 3SG SUB clothes NEG clean / NEG clean / NEG snow.white
 ‘His clothes are not clean/as white as snow.’

As illustrated in (99) - (104) above, derived adjectives can very well function as predicates on their own and be modified by VP-level adverbs such as *hái* ‘still’, *yě* ‘also’ *yǐjīng* ‘already’ which only precede predicative elements (cf. [100b], [103], [104]). The incompatibility with negation and with degree adverbs, which are equally typical of predicative elements, can therefore not be due to syntax, but must have semantic reasons.

The unacceptability of modifier-head compounds in the comparative construction (cf. (105) above) allows us to determine the semantic problem at stake. Derived adjectives are not admitted here because in a comparison, a quantitative judgement with respect to the presence of a property is asked for, not a description of this property. The predominance of the descriptive component in derived adjectives is particularly visible in the case of modifier-head compounds:

- (112) Tā de yīfu bù shì xuě -bái , érshì bǐ xuě hái bái
 3SG SUB clothes NEG be snow-white but compared.to snow still white
 ‘Her dress is not as white as snow, but even whiter than snow.’

The second clause in (112) is obligatory, because it makes explicit that it is the descriptive component which is negated, not the property itself. The latter cannot be negated, hence the incompatibility with *bù* (cf. [111]). Negation of the adjective with *bù shì* functioning as metalinguistic negation, however, is possible, because *bù shì* can bear on a subpart of the compound only.

This line of reasoning showing the incompatibility of derived adjectives with negation to be of a semantic, not a syntactic nature is corroborated by the acceptability of derived adjectives with adverbs of intensity such as *zhème*, *nàme* ‘so, such’ in (108) and (109) above. Consequently, derived adjectives are not on a par with absolute adjectives; the latter do not allow these adverbs, because they are essentially binary. Also recall that absolute adjectives - being non-predicative adjectives - need *shì...de* in order to form a predicate (cf. section 5.1.1 above), another contrast with respect to the systematically predicative derived adjectives.

Last, but not least, the positive degree interpretation observed for derived adjectives (also cf. C.-S. Luther Liu 2013), augmented by the descriptive component in ‘modifier-head’ compounds or the special semantics associated with reduplication, in combination with the systematic lack of a comparative degree interpretation presents a challenge for the current analyses of the adverb *hěn* ‘very’. Recall that *hěn* plays a decisive role in the positive degree interpretation of *simple* adjectives in predicative function (cf. section 5.1.4 above) and is either analysed as licenser of the covert positive degree morpheme (cf. C.-S. Luther Liu 2010) or as head of a Degree projection intervening between TP and the AP (cf. Grano 2012). As far as I can see, these analyses of *hěn* cannot be maintained in the light of the class of derived adjectives, and further research is called for here. In any case, these latter musings highlight the point I want to make here, i.e. the status of derived adjectives as a class distinct from simple adjectives.

Besides their systematic ability to function as predicates, attributes and adverbs, derived adjectives also behave alike with respect to two other phenomena, viz. compound formation and *de*-less modification.

5.3.3. The unacceptability of derived adjectives in verbal compounds

As has been observed in the literature, reduplicated adjectives - unlike their simple counterparts - are excluded from the formation of resultative verb compounds of the form ‘verb-adjective’ where the adjective indicates the result of the action expressed by the verb:

- (113) a. Tā bǎ zhuōzi cā -gānjìng-le (Sybesma 1991: 133, [13], [14])
 3SG BA table wipe-clean -PERF
 ‘He wiped the table clean.’

- b. **Tā bǎ zhuōzi cā -gāngānjìngjìng-le*
 3SG BA table wipe-clean -PERF
- (114) a. *Tā bǎ chuángdān dié -zhěngqí-le*
 3SG BA sheet fold-neat -PERF
 ‘He folded the sheets neatly.’
- b. **Tā bǎ chuángdān dié -zhěngzhěngqíqí-le*
 3SG BA sheet fold-neat -PERF
- (115) a. *Wūzi de qiáng dōu shuā-bái -le*
 room SUB wall all paint-white PERF
 ‘The walls of the room are all painted white’
- b. **Wūzi de qiáng dōu shuā-baibái -le*
 room SUB wall all paint-white -PERF
- (116) a. *Lúzi shāo-rè -le*
 stove burn-hot -PERF
 ‘The stove has burnt itself hot.’
- a. **Lúzi shāo-rèrè-le*
 stove burn-hot -PERF

Since disyllabic adjectives ([113a], [114a]) are as acceptable in these compounds as monosyllabic ones ([115a], [116a]), the unacceptability of the ‘AA’ reduplicates in examples (115b) and (116b) cannot be reduced to a phonotactic constraint sensitive to the number of syllables.

As demonstrated below, the same constraint equally holds for (non-reduplicated) ‘modifier-head’ adjectival compounds, i.e. like reduplicated adjectives, they cannot enter into the formation of resultative verbal compounds:

- (117) a. *Tā kū -hóng-le yǎnjing*
 3SG cry -red -PERF eye
 ‘He cried his eyes red.’
- b. **Tā kū -tōnghóng-le yǎnjing*
 3SG cry-scarlet -PERF eye
- (118) a. *Tā shǒu dòng-hóng-le*
 3SG hand freeze-red-PERF
 ‘His hands were red-frozen.’
- b. **Tā shǒu dòng -tōnghong-le*
 3SG hand freeze-scarlet -PERF
- (119) a. *Wūzi de qiáng dōu shuā-bái -le* (= [115a] above)
 room SUB wall all paint-white-PERF
 ‘The walls of the room are all painted white.’
- b. **Wūzi de qiáng dōu shuā-xuě -bái -le*
 room SUB wall all paint-snow-white-PERF
- (120) a. *Diànxiàn lā -zhí -le*
 electric.wire pull-straight-PERF
 ‘The electric wire has been pulled straight.’

- b. *Diànxian lā -bǐ -zhí le
electric.wire pull-brush-straight PART

The general ban on derived adjectives to enter into the formation of resultative verb compounds clearly sets them apart from the class of simple adjectives. It also further corroborates the claim that modifier-head compounds - both in their non-reduplicated as well as in their reduplicated form - belong to the same class as reduplicated adjectives.

5.3.4. The unacceptability of derived adjectives in the *de*-less modification structure

Another important characteristic of derived adjectives is their unacceptability in the *de*-less modification structure (cf. Lü et al. 1980: 719):

- (121) a. *gānjìng (de_{sub}) yīfu*
clean SUB clothes
'clean clothes'
- b. *gāngānjìngjìng*(de_{sub}) yīfu*
clean SUB clothes
'clean clothes'
- (122) a. *bái (de_{sub}) zhǐ*
white SUB paper
'white paper'
- b. *báibái/xuě -bái /xuěbáixuěbái *(de_{sub}) zhǐ*
white /snow-white/ snow-white SUB paper
'(snow-) white paper'
- (123) a. *hóng (de_{sub}) chènshān*
red SUB shirt
'a red shirt'
- b. *tōnghóng/hónghóng*(de_{sub}) chènshān*
scarlet / red SUB shirt
'a scarlet shirt'

As argued for at length in sections 5.1.2 and 5.1.3 above, this unacceptability cannot be reduced to a prosodic ban against non-monosyllabic adjectives in the *de*-less modification structure nor to alleged wordhood of the sequence 'adjective N' (*contra* Sproat & Shih 1988, Duanmu 1997, Lu & Duanmu 2002). Instead, I propose an account in semantico-pragmatic terms. As noted by Zhu Dexi (1956/80: 5-6) and subsequent authors (cf. e.g. Tang Ting-chi 1988), reduplicated adjectives introduce the speaker's subjective evaluation of the property expressed by the adjective rather than solely refer to that property (as is the case with simple adjectives). Accordingly, reduplicated adjectives cannot be interpreted as defining properties and are excluded from the *de*-less modification structure, for the resulting NP does not satisfy the condition of a plausible, natural classification. The same reasoning applies to modifier-head compounds such as *xuě-bái* 'snow-white' = 'as white as snow', *bǐ-zhí* 'brush-straight' = 'perfectly straight' etc.: as their internal structure shows, these adjectives provide the description of a property ('as white as snow', 'as straight as a brush') rather than purely refer to it. It is this semantic component of evaluating, describing a property, in contrast to referring to a property, which is shared by reduplicated adjectives and modifier-head compounds and which explains their belonging to the same class.³³

³³ Note that *encoding* the speaker's subjective evaluation via a derived adjective should not be confounded with whatever subjective connotation may enter into the meaning of (stage-level predicate) adjectives such as *gānjìng*

5.3.5. The productivity of the ‘AABB’ reduplication pattern

The systematic syntactic and semantic differences between simple and derived adjectives discussed so far justify their analysis as two separate morphological classes, the relation between them being one of derivation. Among the different derivation processes (modifier-head compound formation, total or partial reduplication), the ‘AABB’ reduplication represents the productive and regular pattern.³⁴ This is evidenced by the fact that the derivation of ‘AABB’ reduplicates is not limited to cases where a corresponding simple adjective ‘AB’ exists, but applies to all kinds of morphemes. Importantly, the resulting ‘AABB’ reduplicates once again have all of the three functions typical of the class of derived adjectives: attributive, predicative and adverbial (some reduplicates only function as adverbs, though; cf. [126] and [127]).

- (124) a. *pó- -pó -mā -mā* ‘womanish, fussy, sentimental’
old.lady-old.lady-mother-mother
(N.B. There exists no “corresponding” *pó-mā*)
- b. *Zhè ge rén pópómāmāde*
this CL person fussy
‘This person is fussy.’
- c. *Wǒ bù xǐhuan zhè ge pópómāmā de rén*
1SG NEG like this CL fussy SUB person
‘I don’t like this fussy person.’
- d. *Tā pópómāmāde shuō-le yī dà duī*
3SG fussy talk -PERF 1 big heap
‘He fussily talked a lot.’
- (115) a. *guǐ -guǐ -suì -suì* ‘furtive, stealthy, sneaky’
ghost-ghost-evil.spirit-evil.spirit
(N.B. There exists no “corresponding” *guǐ-suì*)
- b. *Zhè jiāhuo guǐguǐsuìsuìde*
this guy stealthy
‘This guy is stealthy.’
- c. *yī ge guǐguǐsuìsuì de xiǎotōu*
1 CL stealthy SUB thief
‘a stealthy thief’
- d. *Zhè ge xiǎotōu guǐguǐsuìsuìde pǎo dào wūzi lǐ lái*
this CL thief stealthy run to house in come
‘This thief ran stealthily into the house.’
- (116) a. *kū -kū -tí -tí* ‘with sobs and tears, weeping and wailing’
cry-cry-weep.aloud-weep.aloud

‘clean’, *piàoliang* ‘pretty’, *qíguài* ‘bizarre’. The fact that the latter *are* acceptable in the *de*-less modification structure (cf. [16], [17] above), whereas derived adjectives are not, clearly shows that the grammar of Chinese makes this distinction.

³⁴ In the literature, however, new reduplication patterns are created as part of a writer’s personal style. For example, the writer Yan Lianke freely uses the so far non-existing reduplication schema ‘ABCC’ as in *fěn-hóng-dàn-dàn* ‘pink-red-bright-bright’. Importantly, as emphasized by Yang–Drocourt (2008: 89–92), these new creations are perfectly intelligible to the native speaker, including their stylistic effects.

- b. *Tā kūkūttíde pǎo-guò -lái*
 3SG weeping.and.wailing run-pass-come
 ‘He came running over weeping and wailing.’
- (117) a. *sān-sān-liǎng-liǎng* ‘by two’s and three’s’
 3 -3 -2 -2
- b. *Tāmen sānsānliǎngliǎngde zǒujìn-le jiàoshì*
 3PL by.two’s.and.three’s enter-PERF classroom
 ‘They entered the classroom by two’s and three’s.’

These cases put forward the derivational nature of reduplication in a particular clear fashion, the output being the same, independently of the categorial identity of the input.

Last, but not least it is also clear that certain morphological structures block reduplication, giving rise to systematic gaps in the paradigm. This is the case for all adjectives of the form [_{Adj} *kě*-X] such as *kě’ài* ‘lovable’, *kěkào* ‘reliable’, *kělián* ‘pitiable’ where *kě*- corresponds to the English *-able*. In addition, none of these adjectives [*kě*-X] is acceptable in *de*-less modification, showing that they belong to the class of derived adjectives. Unlike the modifier-head compounds such as *xuě-bái* ‘snow-white’, however, the internal structure of the [*kě*-X] adjectives block reduplication. This illustrates that the morphological structure plays a much more important role in Chinese than hitherto assumed.

5.3.6. Interim summary

There are two morphologically different classes of adjectives in Chinese, viz. simple vs. derived adjectives. The class of derived adjectives subsumes (completely and partially) reduplicated adjectives as well as modifier-head compounds; they can systematically function as predicates, attributes and adverbs. Accordingly, derived adjectives lack the bipartitioning into predicative and non-predicative adjectives observed for the class of simple adjectives. The common semantic denominator of derived adjectives is to evaluate, describe a property rather than purely refer to it (as simple adjectives do). It is this special semantics of derived adjectives which explains their incompatibility with degree adverbs and with negation as well as their unacceptability in the comparative construction and the *de*-less modification structure.

5.4. Conclusion

This chapter has provided extensive evidence for adjectives as a separate category in Mandarin Chinese, distinct from verbs. More precisely, Chinese has as many as *two* morphologically different classes of adjectives, simple and derived adjectives, each with its own set of predictable semantic and syntactic properties. This is an “unexpected” result insofar as Chinese as an isolating language is in general assumed to have an impoverished categorial inventory. In addition, reduplication as a productive morphological process does not fit into our picture of isolating languages, either.

Another important result obtained is that typological studies of adnominal modification have to take into account the modification structure with *de*, [_{DP} A *de* N], and that without [_{NP} A N], both being phrasal (*contra* Sproat & Shih 1988, 1991). The same constraint in terms of a natural, (culturally) plausible class that holds for English prenominal modification (cf. Bolinger 1967) is valid for Chinese *de*-less modification as well, once again reducing the “exotic” character of Chinese.

Last, but not least, current proposals have been invalidated which analyse all adnominal modifiers subordinated by *de* as either relative clauses (cf. Sproat & Shih 1988, 1991; Duanmu 1998; Simpson 2001) or as small clauses (cf. Den Dikken & Singhapreecha 2004).

References

- Aoun, Joseph & Li, Y.-H. Audrey. 2003. *Essays on the representational and derivational nature of grammar: The diversity of wh-constructions*. Cambridge, Mass.: MIT Press.
- Bolinger, Dwight (1967). Adjectives in English: Attribution and Predication. *Lingua*, 18 (1967), 1–34.
- Bouchard, Denis. 1998. The Distribution and Interpretation of adjectives in French: A consequence of Bare Phrase Structure. *Probus* 10: 193-183.
- Bouchard, Denis. 2005. Sériation des adjectifs dans le SN et formation de Concepts. *Recherches Linguistiques de Vincennes* 34.
- Chao, Yuen Ren. 1968. *A grammar of spoken Chinese*. Berkeley et alibi: University of California Press.
- Cheng, Lisa Lai-Shen & Sybesma, Rint (2009). *De* as an underspecified classifier : First explorations. In : *Yuyanxue Luncong* 39 : 123-156. Pre-print version downloadable at : <http://lisacheng.nl>
- Chierchia, Gennaro. 1998. Reference to kinds across languages. *Natural Language Semantics* 6: 339 - 405.
- Cinque, Guglielmo. 1994. On the evidence for partial N-movement in the Romance DP. In: Cinque, G. et al. (eds.). *Paths towards Universal Grammar. Studies in honor of Richard S. Kayne*. Washington, DC: Georgetown University Press, pp. 85 - 110.
- Cinque, Guglielmo. 2005. The dual source of adjectives and phrasal movement in the Romance DP. Ms., University of Venice.
- Dikken, Marcel Den & Singhapreecha, Pornsiri. 2004. Complex noun phrases and linkers. *Syntax* 7, 1: 1 - 54.
- Dixon, R.M.W. (1977). Where have all the adjectives gone. *Studies in Language* 1: 1–80.
- Dragunov, Alexander A. 1952. *Issledovanija po grammatike sovremennogo kitajskogo jazyka* [Studies in the Grammar of Modern Chinese]. Moscow: Academy of Sciences. [German translation by Lippert, W. 1960. Berlin: Akademie-Verlag.]
- Duanmu, San. 1998. Wordhood in Chinese. In : Packard, Jerome (ed.). *New approaches to Chinese word formation: Morphology, phonology and the lexicon in modern and ancient Chinese*. Berlin, New York : Mouton de Gruyter ; pp. 135-196.
- Feng, Shengli. 2001. Lun hanyu ‘ci’ de duo-wei-xing [The multidimensional properties of ‘word’ in Chinese]. *Dangdai yuyanxue* 3, 3: 161 - 174.
- Fan Jiyan (1958). Xing-ming zuhe jian de-zi de yufa zuoyong [The grammatical function of *de* in ‘adjective noun’ phrases]. *Zhongguo yuwen* 1958, n° 5, pp. 213-217.
- Francis, Elaine & Matthews, Stephen. 2005. A multi-dimensional approach to the category *verb* in Cantonese. *Journal of Linguistics* 41, 2: 269-305.
- Fu, Jingqi (1987). *La structure du syntagme nominal en chinois*. Doctoral dissertation, University of Paris 3.
- Grano, Thomas (2012). Mandarin *hen*, universal markedness, and gradable adjectives. *Natural Language and Linguistic Theory* 30 (2): 513 – 565.
- Hu, Mingyang (1983). Subclassification of adjectives in the Peking dialect. *Cahiers de Linguistique – Asie orientale* 12 (2): 3–20.
- Huang, C.-T. James. 1982. *Logical relations in Chinese and the theory of grammar*. Doctoral dissertation, MIT.
- Huang, C.-T. James. 1984a. “Phrase structure, lexical integrity and Chinese compounds”. *Journal of the Chinese Language Teachers’ Association* 19(2): 53-78.
- Huang, Shizhe. 2006. Property theory, adjectives, and modification in Chinese. *Journal of East Asian Linguistics* 15, 4: 343 - 369.
- Karl, Ilse. 1993. Zum morphologischen Status der Reduplikation und zu ihrer Rolle in der chinesischen Wortbildung. in: Karl, Ilse et al. 1993. *Chinesische Wortbildung. Studien zur Theorienbildung und Wortstrukturbeschreibung*. Heidelberg: Julius Groos, pp. 231-330.
- Kayne, Richard. 1994. *The Antisymmetry of Syntax*. Cambridge, Mass.: MIT Press.
- Klein-Andreu, Flora. 1983. Grammar in style: Spanish adjective placement. In: Klein-Andreu, F. (ed.). 1983. *Discourse perspectives on syntax*. New York: Academic Press.

- Larson, Richard. 1991. "Some issues in verb serialization". In *Serial verbs: Grammatical, comparative and cognitive approaches*, C. Lefebvre (ed.), 185 - 210. Amsterdam and Philadelphia: John Benjamins.
- Lau, L.-M. Vendy. 1999. *A study of Cantonese adjectives*. M.Phil.dissertation, University of Hong Kong.
- Li, Charles N. & Thompson, Sandra A. 1981. *Mandarin Chinese. A functional reference grammar*. Berkeley et alibi: University of California Press.
- Li, Y.-H. Audrey. 2007. Conjunction and Adjunction. Paper presented at the *Joint conference of IACL 15/NACCL 19*, Department of East Asian Languages and Cultures, Columbia University, N.Y.; May 25-27, 2007.
- Li Yen-Hui Audrey (2012). *De in Mandarin ↔ e in Taiwanese*. *Studies in Chinese Linguistics* [The Chinese University of Hong Kong] 33 (1): 17–40.
- Li Yen-Hui Audrey (to appear). 从台湾闽南语 e 看汉语含‘的’名词短语结构 *Cóng táiwān mǐnnányǔ e kàn hànyǔ hán de míngcí duǎnyǔ jiégòu* [Looking at noun phrases with *de* in Mandarin from the perspective of Taiwanese *e*]. In *The attributive particle in Chinese* [Frontiers in Chinese Linguistics Series], Tang, Sze-Wing (ed.). Beijing: Beijing University Press.
- Lin, Jimmy. 2004. *Event structure and the encoding of arguments: The syntax of the Mandarin and English verb phrase*. Doctoral dissertation, Massachusetts Institute of Technology.
- Liu, C.-S. Luther (2010). The positive morpheme in Chinese and the adjectival structure. *Lingua* 120: 1010–1056.
- Liu, C.-S. Luther (2013). Reduplication of adjectives in Chinese: A default state. *Journal of East Asian Linguistics* 22 (2): 101–132.
- Liu, Danqing. 2005. "Hanyu guanxi-congju biaoji leixing chu-tan [Typology of relativizers in Chinese across dialects]". *Zhongguo yuwen* 2005, n° 1: 3 - 15.
- Lu Bingfu and Duanmu San 2002: "Rhythm and Syntax in Chinese." *Journal of the Chinese Language Teachers' Association* 37(2): 123-135.
- Lu, Zhiwei. 1975². *Hanyu de goucifa* [Word formation in Chinese]. Hong Kong: Zhonghua.
- Lü, Shuxiang et al. (eds.). 2000. *Xiandai hanyu babaici* [800 words of Modern Chinese]. Beijing: Shangwu yinshuguan.
- McCawley, James D. 1992. Justifying part-of-speech assignment in Mandarin Chinese. *Journal of Chinese Linguistics* 20,2: 211 - 245.
- Mei Kuang. 2001. On Chinese V-*de* construction: A light verb analysis. Paper presented at IACL-10/NACCL-13, UC at Irvine, June 22 - 24, 2001.
- Meng, Cong et al. (eds.). 1984. *Dongci yongfa cidian* [Practical dictionary of verbs]. Shanghai: Ceshu chubanshe.
- Newmeyer, Frederick J. (2005). *Possible and probable languages. A generative perspective on language typology*. Oxford: Oxford University Press.
- Packard, Jerome. 2000. *The morphology of Chinese*. Cambridge: Cambridge University Press.
- Paris, Marie-Claude. 1979. *Nominalization in Chinese. The morpheme de and the shi...de construction*. Paris: Université Paris 7, Département de Recherches Linguistiques.
- Paris, Marie-Claude (ed.) 1980. *Les constructions en de*. Paris: Editions Langages Croisés.
- Paris, Marie-Claude. 1989. Quelques aspects de la gradation en mandarin. In: Paris, Marie-Claude. 1989. *Linguistique générale et linguistique chinoise: quelques exemples d'argumentation*. Paris: UFR, pp. 99 - 119.
- Paul, Waltraud. 2004. Adjectival reduplication in Mandarin Chinese. Paper presented at the *11th International Morphology Meeting*, University of Vienna, 14 - 17 February 2004.
- Paul, Waltraud. 2005a. Adjectival modification in Mandarin Chinese and related issues. *Linguistics* 43(4): 757 - 793.
- Paul, Waltraud 2006. Zhu Dexi's two classes of adjectives revisited. In: *Studies in Chinese Language and Culture - Festschrift in honour of Christoph Harbsmeier on the occasion of his 60th Birthday*, Christoph Anderl and Halvor Eifring (eds.), 303-315. Oslo: Hermes Academic Publishing.
- Paul, Waltraud. 2010. Adjectives in Mandarin Chinese: The rehabilitation of a much ostracized category. In *Adjectives. Formal analyses in syntax and semantics*; Patricia Cabredo Hofherr and ora Matushansky (eds.), 115–151. Amsterdam: Benjamins.

- Paul, Waltraud (2012). Why Chinese *de* is not like French *de*: A critical analysis of the predicational approach to nominal modification. *Studies in Chinese Linguistics* [The Chinese University of Hong Kong] 33 (3): 183–201.
- Paul, Waltraud (to appear) The insubordinate subordinator *de* in Mandarin Chinese: Second take. In *The attributive particle in Chinese* [Frontiers in Chinese Linguistics Series], Tang, Sze-Wing (ed.). Beijing: Beijing University Press.
- Scott, Gary-John. 2002a. Stacked adjectival modification and the structure of nominal phrases. In: Cinque, G. (ed.). *Functional Structure in the DP and IP: The cartography of syntactic structures*. Vol. 1. Oxford, New York: Oxford University Press.
- Scott, Gary-John. 2002b. *The syntax and semantics of adjectival modification*. Doctoral dissertation, SOAS, London.
- Shi, Dingxu. 2005. Dong-ming jieyou qiyi de chansheng yu xiaochu [The ambiguity of V-N constructions and their disambiguation]. *Yuyan jiaoxue yu yanjiu* 2005, n° 3: 1-8.
- Simpson, Andrew. 2001. Definiteness agreement and the Chinese DP. *Language and Linguistics* 2, 1 : 125 - 156.
- Sproat, Richard & Shih, Chilin. 1988. Prenominal adjectival ordering in English and Mandarin. *Proceedings of NELS 18*. Amherst, MA : GLSA ; vol. 2, pp. 465-489.
- Sproat, Richard & Shih, Chilin. 1991. The cross-linguistic distribution of adjective ordering restrictions. In : Georgopoulos, C. & Ishihara, R. (eds.). *Interdisciplinary approaches to Language. Essays in honor of S.-Y. Kuroda*. Dordrecht et alibi : Kluwer ; pp. 565-592.
- Sybesma, Rint. 1991. The dummy *de* in Chinese resultatives. In *Linguistics in the Netherlands 1991*, F. Dijkoningen and A. van Kemenade (eds), 131 -139. Amsterdam and Philadelphia: John Benjamins.
- Tang, C.-C. Jane. 2007. Modifier Licensing and the Chinese DP: a feature analysis. *Language and Linguistics* 8,4: 967-1024.
- Tang, Sze-Wing. 1998. *Parametrization of features in syntax*. Doctoral dissertation, University of California at Irvine.
- Tang, Ting-chi. 1979. Guoyu de *de* zi ju [Sentences with *de*]. In : Tang, T.-C. *Guoyu yufa yanjiu lunji* [Studies in Chinese syntax]. Taipei: Student Book Company; pp. 143-160.
- Tang, Ting-chi. 1988. Guoyu xingrongci de chongdie guilü [Reduplication rules for adjectives in Mandarin Chinese]. In: Tang T.-C. (ed.). *Hanyu cifa jufa lunji* [Studies on Chinese Morphology and Syntax]. Taipei: Student Book Co., pp. 29 - 57.
- Tang, Ting-chi. 1997. On reduplication of adjectives in Chinese: a comparative study of Mandarin and Southern Min. In: Cheng, Chi-chuan et al. (eds.). 1997. *Proceedings of the Eighth North American Conference on Chinese Linguistics*. Los Angeles: GSIL, University of Southern California, vol. 1, pp. 314 - 331.
- Wang, Qiupi & Shi, Jianji. 1990. Chengdu yu qingzhuang [Degree and state]. *Zhongguo Yuwen* 1990, n° 6: 416 - 421.
- Xiao, Fu 1956. Mingcixing cizu zhong 'de' zi de zuoyong [The function of *de* in noun phrases] *Zhongguo yuwen* 1956, 3: 23-26.
- Xu, Jianhua & Liu, Fuhua. 1999. Danyin xingrongci dingyu de he-zhi xi-zhi yu yuxu wenti [Monosyllabic attributive adjectives and the problem of word order]. *Yuyan jiaoxue yu yanjiu* 1999, n° 3: 97 - 106.
- Yang-Drocourt, Zhitang (2008). Un examen critique des études existantes sur la reduplication en chinois contemporain. Unpublished manuscript, Paris.
- Zhang, Niina Ning (2010). *Coordination in syntax*. Cambridge: Cambridge University Press.
- Zhu, Dexi. 1956/1980. Xiandai hanyu xingrongci yanjiu [A study of adjectives in Modern Chinese]. *Yuyan yanjiu* 1956, n° 1 [reprinted in Zhu, Dexi. 1980. *Xiandai hanyu yufa yanjiu* , pp. 3-41].
- Zhu, Dexi. 1993. Cong fangyan he lishi kan zhuangtai xingrongci [Examination of descriptive adjectives in the dialects and from a historical perspective]. *Fangyan* 1993, n° 2: 193-197.
- Ziff, Paul. 1960. *Semantic analysis*. Ithaca: Cornell University Press.

6. The syntax and semantics of the sentence periphery (Part I): What the topic is (not) about
[June 2013]

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6. The syntax and semantics of the sentence periphery (Part I): What the topic is (not) about

This chapter now turns to the domain left of the subject, i.e. the *left periphery* or *sentence periphery*. More precisely, it examines in depth the topic position and its syntactic and semantic properties. This is necessary because since Li and Thompson (1976), the (non-)availability of a topic position has counted as a major typological characteristic classifying languages into those which are *topic prominent* and those which are not.¹

Another claim made by Li and Thompson (1976, 1981), which was to become the main stream thinking in Chinese linguistics and beyond, is that a topic always conveys given information and indicates “what the sentence is about”.² Although the assumption that a language reserves the prominent position at the sentence beginning for exclusively old information looks somewhat implausible, it was readily adopted, probably because it corresponded to the expectations that isolating languages function differently. These (wrong) expectations might also be the reason why concurrent alternative views were not paid the same attention. The more articulated view of topic by Chafe (1976), for example (to be discussed in section 6.1.2 below) was published in the same volume as Li and Thompson (1976), but visibly did not have the same impact. And it was as early as 1982 that Reinhart demonstrated the impossibility of defining the topic as old information and of equating this definition with that of the topic as “what the sentence is about” (cf. Reinhart 1982).

The present chapter adopts Reinhart’s point of view and invalidates the assumption that the topic can be exclusively defined as “what the sentence is about” and that it always conveys given information. More general, any attempt to establish a mechanic link between a syntactic position and a particular informational content in Chinese is shown to fail, and in this respect the topic position just behaves like any other position. Accordingly, the interpretation of a constituent in the topic position results from the interaction of the default values associated with the topic position itself, the syntactic and semantic properties of the element occupying the topic position, and the properties of the predicate within the sentence.

Section 6.1.1 discusses and invalidates preconceived ideas about the topic such as its uniquely conveying given information and indicating “what the sentence is about”. On the contrary, numerous data are presented where the topic indicates new information. This ties in with Bianchi and Frascarelli’s (2010) study of Romance and Germanic languages, for which they posit, among others, an “aboutness shift” topic precisely involving the introduction of a new topic. In section 6.1.2, Chafe’s (1976) definition of the topic as “frame-setting” is shown to be required in addition to the aboutness topic in Bianchi and Frascarelli’s (2010) sense, i.e. open for both old and new information. Section 6.1.3. addresses the frequent confusion between contrastive topic and focus and demonstrates that any constituent in any position can be assigned a contrastive interpretation in Chinese. Section 6.2. adopts the by now general consensus that both movement and base-generation are required for the derivation of topics and explores the consequences of this claim for adjunct phrases in topic position, an issue so far neglected in the literature. Section 6.3 argues for the necessity of keeping topic and subject apart and of avoiding notations such as “topic/subject” conflating the two. In section 6.4, Chinese is shown to have a sentence-*internal* topic right of the subject in addition to the sentence-*external* topic left of the subject. In this respect, Chinese is on a par with e.g. Romance languages, which have been at the basis of the so-called “cartographic” approach to the sentence periphery initiated by Rizzi (1997). In this approach, the sentence periphery is “split up” into numerous subprojections, among them topic and focus projections. As first shown by Belletti (2004), the hierarchy of projections constituting the left periphery above the subject can also be found in the periphery below the subject. This is confirmed by Chinese where the same strict order ‘topic > *lián* ‘even’ focus’ is respected both above and below the subject. In conjunction with other arguments

¹ For a critical review of the notion *topic prominence* cf. Paul and Whitman (in preparation).

² Li & Thompson (1976: 462; section 2, point [d]) state: “The topic is the ‘center of attention’; it announces the theme of the discourse. This is why the topic must be definite ...”. In Li & Thompson (1981: 85) then we find the following formulation: “...the topic [is] characterized as what the sentence is about. ...In addition, the topic always refers either to something that the hearer already knows about – that is, it is *definite* – or to a class of entities – that is, it is *generic* ...”.

presented in section 6.4.1, the possibility for the sentence-internal topic to co-occur with the *lián* ‘even’ focus challenges the still widespread analysis of the sentence-internal topic as a focus. After a comparison of the sentence-internal topic with the sentence-external topic in section 6.4.2, section 6.4.3. provides several diagnostic criteria to distinguish an SVO sequence involving a sentence-internal topic from the superficially identical SOV sequence resulting from movement to the sentence-external topic position of both the subject and the object. Section 6.5 concludes the chapter and discusses why – though partially successful – the cartographic approach cannot serve as the general framework to account for the overall syntax and semantics of the sentence periphery in Chinese.

6.1. Critical review of preconceived ideas about topic

Since the literature abounds with examples of topics conveying given information, typically involving DPs with a demonstrative pronoun as in (1), I leave data of this type aside.

- (1) $[_{DP} \text{Zhè jiàn shì }]$, nǐ jiù fàng xīn ba (Lü Shuxiang 1986: 334)
 this CL matter 2SG then put heart PART
 ‘Concerning this matter, you can put your mind at ease.’

Instead, I concentrate on discussing the – after all rather numerous – cases where the topic clearly carries new information, in order to substantiate my claim that topics can convey old *and* new information alike and are *not* associated with a particular informational value, *viz* old information.

Note that I use the term *topic* here as short for a phrase XP occupying a topic position (TP-external or TP-internal) rather than in the often encountered more general sense of “topic of discourse” (indicating the subject matter of the sentence in general, irrespective of the syntactic position at hand).³ In the case of a sentence-external topic, the position in question is the sentence-initial position to the left of the subject. More precisely, the topic occupies the specifier position of the functional projection Topic Phrase (TopP) whose head, Topic°, either selects a sentence (TP) as complement or another TopP, thus giving rise to multiple topics (cf. Gasde and Paul 1996).

- (2) a. Nǐ de bóshìlùnwén zěnmeyàng?
 2SG SUB dissertation how
 ‘How is your thesis going?’
 b. Wǒ hái yào xiě jiélùn , shūmù ;
 1SG still want write conclusion bibliography

$[_{TopP} \text{dǎbiàn } [_{Top'} [_{Top^\circ} ne] [_{TP} \text{wǒ bù zhīdao Lǐ jiàoshòu yǒu méi yǒu kòng}]]]$
 defence TOP 1SG NEG know Li professor have NEG have time

‘I still have to write the conclusion and the bibliography;
 concerning the defence, I don’t know yet whether Professor Li is available.’

The head position of TopP can be realized by so-called *pause particles* such as *ne* (cf. Gasde and Paul 1996, Paul 2005b).⁴ The semantic effect of *ne* is to indicate that the topic in question is another

³ As to be demonstrated in section 6.1.2 below, not only NPs and DPs, but a large array of other phrases (AdPs, QPs, clauses, adverbs etc.) can be topics, whence my use of the category-neutral XP here.

⁴ Whether the so-called pause particles such as (y)a, me etc. all instantiate the head of TopP or simply mark a pause is still a matter of debate (cf. Victor Junnan Pan 2011b; Badan 2007). In the following, I use *ne* if possible, i.e. if the semantic conditions just outlined are given, because its status as Top° is relatively uncontroversial. Also note that I avoid the term *topic marker* for the instantiations of Top° such as *ne*, because this might lead to the misunderstanding that *ne* forms a constituent with the topic and that a phrase XP in any position can be marked as topic by simply adding *ne*. This is, however, not the case, as witnessed by the incompatibility of *ne* with an XP added as an “afterthought” at the end of the sentence:

(i) $[_{TopP} \text{Quèshí } [_{Top'} [_{Top^\circ} ne] [_{TP} \text{tā de nénglì shì bǐ wǒ qiáng}]]]$
 indeed TOP 3SG SUB ability be compared.with 1SG strong
 ‘His abilities are indeed greater than mine.’

member of the series partially enumerated in the preceding discourse or implicitly understood. *Dàbiàn* ‘defence’ in (2b), for example, represents one of the items in the list of things still to take care of in relation with the thesis, along with *jiélùn* ‘conclusion’ and *shūmù* ‘bibliography’ (the latter two occurring in the canonical postverbal object position).

6.1.1. Topic is not tantamount to given information

A closer look at the question/answer pair in (2a)/(2b) reveals that the topic *dàbiàn* ‘defence’ provides a partial answer, hence new information, to the preceding request, on a par with *jiélùn* ‘conclusion’ and *shūmù* ‘bibliography’. While naturally all these items have to do with the thesis (for otherwise the answer given to the request about the progress of the thesis would simply be nonsensical), they nevertheless provide new information, because they are chosen among the myriad of possible aspects of thesis writing such as introduction, preface, summary, award ceremony etc.

Examples of the type illustrated in (2b) thus challenge the view that a topic is automatically associated with given, old information, a view dominant both in Chinese linguistics (cf. among many others Li & Thompson 1981, sections 2.3, 4.1; Shi Dingxu 2000; Xu Liejiong 2006; Badan 2007; Del Gobbo and Badan 2010; Cheng and Sybesma to appear) and beyond (e.g. in the cartographic approach of the left periphery, mainly based on Romance and Germanic languages (cf. among others Rizzi 1997, 2004a; Belletti 2004, Frey 2004).

In fact, upon careful scrutiny Mandarin Chinese reveals many more such cases where the topic conveys new information.

First, the topic itself can provide the answer to a preceding *wh*-question and hence must carry new information:

- (3) a. *Wǒmen shénme shíhou jiàn miàn?*
 1PL what time see face
 ‘When will we see each other?’
- b. *Míngtiān, míngtiān [TP wǒ yīdìng lái]* (Lu Jianming 1980)
 tomorrow tomorrow 1SG certainly come
 ‘Tomorrow, tomorrow I’ll certainly come.’

Second, discourse-linked *wh*-phrases in TopP (cf. Victor Junnan Pan 2011b) are a request for information and cannot constitute old information. Similarly, the topic given as answer to such a question must carry new information:

- (4) a. *[TopP Nǎ jiàn yīfu [TP nǐ yǐjīng shì-guo le]]?*
 which CL dress 2SG already try-EXP PART
 ‘Which (of the) dress(es) have you already tried on?’
- b. *[TopP Zhè sān jiàn [wǒ yījīng shì-guo le], [TopP qítā de [TP pro hái méiyǒu]]*
 this 3 CL 1SG already try-EXP PART other SU B still NEG
 ‘These three dresses, I have already tried on, but the others, I haven’t.’
- (5) a. *[TopP Nǎ ge cài [TP nǐ zuì xǐhuān chī]]?*
 which CL dish 2SG most like eat
 ‘Which (of the) dish(es) do you like most?’

-
- (ii) *[TP Tā de nénglì shì bǐ wǒ qiáng], quèshí (*ne)*
 3SG SUB ability be compared.with 1SG strong indeed TOP
 ‘His abilities are greater than mine, indeed.’

In (i), the adverb *quèshí* ‘indeed’ occupies the topic position and hence can be followed by *ne* (cf. section 6.1.2 below for an illustration of the large array of XPs acceptable in the topic position). In (ii), by contrast, the same adverb *quèshí* ‘indeed’ is added as an afterthought and adjoined to the right of the entire sentence. *Ne* is unacceptable in the afterthought part because as the head *Topic* it must select a TP or TopP complement to its right. (ii) also illustrates that the XP and *ne* do not form a constituent.

b. [_{TopP} *Niúròumiàn* [_{TP} *wǒ zuì xǐhuan (chī)*]
 beef.noodles 1SG most like eat
 ‘Beef noodles, I like most.’

c. #*Wǒ zuì xǐhuan (chī) niúròumiàn*
 1SG mostlike eat beef.noodles
 ‘I like beef noodles most.’

Importantly, the answer where the requested item occupies the topic position (cf. [5b]), i.e. the same position as the D-linked *wh* phrase, is more felicitous than the answer where it occurs in the canonical postverbal object position (cf. [5c]).

As indicated in the translation, a D-linked *wh*-phrase questions one or several items out of a given set: ‘which X’ or ‘which of the Xs’. This is not the case for a plain *wh*-phrase of the form *shénme* ‘what’, *shéi* ‘who’ where no such presupposed set exists and which accordingly is only acceptable *in situ*, but not in topic position:⁵

(6) a. [_{TP} *Nǐ yǐjīng shì-guo shénme*]?
 2SG already try-EXP what
 ‘What have you already tried on?’

b. * [_{TopP} *Shénme* [_{TP} *nǐ yǐjīng shì-guo*]]?
 what 2SG already try-EXP

Note that Chinese is not the only language where D-linked *wh*-phrases occur in the topic position; for a similar case in German, cf. Grohmann (2006).

Third, it is perfectly possible to posit an element carrying new information as the topic of a sentence. Example (7) with *niúròu* ‘beef’ in the topic position can be the first sentence uttered by a customer in a butchery. (8) is possible in a context where the person addressed is visiting the office and the speaker tries to elicit information from the visitor in order to decide to whom he should be introduced. Crucially, (7) and (8) are felicitous without the DP in topic position being referred to in the preceding discourse or singled out by the extra-linguistic context; also note that they are not interpreted contrastively here.

⁵ Contrary to what is sometimes claimed in the literature (cf. among others Wu Jiangxin 1999), a plain *wh* phrase such as *shénme* ‘what’, *shéi* ‘who(m)’ cannot be interpreted as D-linked and is therefore unacceptable in topic position in Chinese (cf. Victor Junnan Pan 2011b, ch. 7 for detailed discussion). By contrast, a *wh* phrase with *shénme* as modifier, e.g. *shénme cài* ‘what dish’ allows for a D-linked reading and hence can occur in the topic position:

(i) [_{TopP} *Shénme cài*] [_{TP} *nǐ zuì xǐhuān chī*]?
 what dish 2SG most like eat
 ‘What dish(es) do you like most?’

The difference between the two types of D-linked *wh* phrases, [*shénme* N] ‘what N’ and [*nǎ* classifier N] ‘which (of the) N’ resides in the fact that only the latter allows for contrastive sets as answer:

- (ii) a. [_{TopP} *Shénme cài*] [_{TP} *nǐ zuì xǐhuān chī*]?
 what dish 2SG most like eat
 ‘What dish(es) do you like most?’
 b. *Wǒ zuì xǐhuān niúròumiàn (# bù xǐhuān chǎofàn)*
 1SG most like beef.noodles NEG like fried.rice
 ‘I like beef noodles most (but I don’t like fried rice).’
- (iii) a. [_{TopP} *Nǎ ge cài*] [_{TP} *nǐ zuì xǐhuān chī*]?
 which CL dish 2SG most like eat
 ‘Which dish(es) do you like most?’
 b. *Wǒ zuì xǐhuān niúròumiàn, (bù xǐhuān chǎofàn)*
 1SG most like beef.noodles NEG like fried.rice
 ‘I like beef noodles most, (but I don’t like fried rice).’

- (7) *Niúròu, nǐ gěi wǒ liǎng jīn*
 beef 2SG give 1SG 2 pound
 ‘Beef, give me two pounds.’
- (8) *Wǒmen de fùzhǔrèn , nǐ rènshi ma?*
 1PL SUB deputy.director 2SG know PART
 ‘Our deputy director, do you know him?’ (Lu Jianming 1980: 34)

Potential objections against the new information status of the topics in (7) - (8) above raise the point that e.g. (7) is only felicitous in a butchery and that accordingly *niúròu* ‘beef’ is (partially) expected, hence (partially) given. The same reasoning is applied to (8) where *wǒmen de fùzhǔrèn* ‘our deputy director’ is said to be among the plausible people to meet in an office. However, the fact to be uttered in an extralinguistically appropriate context is on a different level from the distribution of new and old information. That is, a sentence where *niúròu* ‘beef’ occupies the postverbal object position (cf. [9]) would be as unfelicitous in a bakery as sentence (7) above with *niúròu* ‘beef’ in topic position.

- (9) *Qǐng gěi wǒ niúròu*
 please give 1SG beef
 ‘Please give me some beef.’

Besides, even if one accepted extralinguistic plausibility as a factor contributing to the always (partially) given nature of topics, it would be easy to come up with examples of a pragmatically completely unexpected item in topic position. One could very well imagine a customer to enter a butchery and to ask:

- (10) *Gébi de shāngdiàn, tāmen shénmeshíhou kāi mén?*
 neighbouring SUB shop 3PL when open door
 ‘The shop next door, when do they open?’

In (10), the topic ‘the store next door’ cannot possibly be construed as “partially expected” in the context of a butchery. Or if it can, then nothing can be new information in the strict sense, because everything can somehow be construed as “given” due to the extralinguistic constraint of contextual appropriateness.

This is in fact the point of view defended by Roberts (1996) and Buring (2003) inter alia (cf. the discussion in Bianchi and Frascarelli 2010). They assume that any assertion in a discourse (except complete ‘out of the blue’ sentences) provides the answer to a possibly implicit “question under discussion”, thus accounting for its relevance to the current discourse (cf. Erteschik-Shir 2007 for a similar approach). However, as pointed out by Reinhart (1982: 33, note 11), such a conception of what counts as ‘old information’ is “too broad to be of any use at all, since it is hard to imagine what information in a given context would not meet this requirement [of being related to or inferable from the discourse; WP].”

Fourth, if it were true that topics always convey old information, we would expect personal pronouns to preferably occur in the topic position, given that they are elements carrying old information *par excellence*. However, at least in Chinese, personal pronouns are very rare in topic position and must be interpreted deictically here:

- (11) *Nǐ rènshi tā ma ? Tā, wǒ rènshi*
 2SG know 3SG PART 3SG 1SG know
 ‘Do you know him? Him, (yes), I know.’

The answer in (11) is only felicitous if *tā* ‘s/he’ can be identified by pointing out the person concerned. This is confirmed by the marginal status of the corresponding sentence with a plural pronoun. (12) is only acceptable if *tāmen* ‘they, them’ constitute a group which can be identified ostensively.

- (12) ?*Nǐ rènshi tāmen ma?* ??*Tāmen, wǒ rènshi*
 2SG know 3PL PART 3PL 1SG know
 ‘Do you know them? Them, (yes), I know.’

Fifth, as soon as one goes beyond DP topics and includes for example conditional clauses, whose default position is the sentence-external TopP (cf. Gasde and Paul 1996), it is even easier to see that no fixed informational value (old vs. new information etc.) can be associated with the topic position. In other words, the topic position is *not* reserved for elements carrying old information. This contrasts with the situation in English as described by von Stechow (1994: 78) (also cf. Paoli 2007).

According to von Stechow (1994: 78), in English a conditional clause in sentence-initial position is a topic and carries old information, whereas in sentence-final position a conditional clause is focal and carries new information:

- (13) a. *What will you do if I give you the money [= new info]?*
 b. A1: *If you give me the money [=old info], I’ll buy this house [= new info].*
 c. A2: *#I’ll buy this house, if you give me the money.*

Since a complex sentence with a sentence-initial *if*-clause has the informational structure ‘old – new’, it is perfectly acceptable as answer to the question in (13a). (13c) however, is not a felicitous answer in English, because the *if*-clause is presented as the requested, hence new information, despite its given information status here.

The information structure ‘old – new’ is, however, appropriate in (14b), where it is the *if*-clause that is the requested information and that accordingly must occupy the sentence-final position:

- (14) a. *Under what conditions will you buy this house?*
 b. A2: *I’ll buy this house [=old info], if you give me the money [= new info].*
 c. A1: *#If you give me the money, I’ll buy this house.*

Again, (14c) is unfelicitous, because there is a clash between the new information status of the *if*-clause and the position it occupies, the sentence-initial topic position being associated with old information in English.

If we now try to replicate these question–answer pairs in Chinese, we obtain the result that a conditional clause in topic position can convey old and new info alike.

First, a conditional clause occupies its default position, i.e. the topic position, both in the question and the answer, despite its new information status in the former and its old information status in the latter, according to von Stechow’s (1994) reasoning:

- (15) a. *Rúguǒ wǒ gěi nǐ qián dehuà, nǐ zuì xiǎng zuò shénme?*
 if 1SG give 2SG money C(-root) 2SG most want do what
 ‘What would you like to do most if I gave you some money?’
 b. *Rúguǒ nǐ gěi wǒ qián dehuà, wǒ zuì xiǎng mǎi yīfu*
 if 2SG give 1SG money C(-root) 1SG most want buy clothes
 ‘If you gave me some money, I would like to buy clothes.’

Second, when the conditional clause does not occupy its default topic position, but is adjoined to the matrix sentence as an afterthought, it again can occupy this same position both in the question (16a) and the answer (16b). In addition, in the answer (16c) it can also occur in the topic position:

- (16) a. *Nǐ zuì xiǎng zuò shénme, rúguǒ wǒ gěi nǐ qián dehuà⁶*
 2SG mostwant do what if 1SG give 2SG money C(-root)
 ‘What would you like to do most, if I gave you some money?’

⁶ The analysis of *dehuà* as a complementiser in non-root contexts is discussed in chapter 7.

- b. A1: *Wǒ zuì xiǎng mǎi yīfu , rúguǒ nǐ gěi wǒ qián dehuà*
 1SG most want buy clothes if 2SG give 1SG money C(-root)
 ‘If you gave me some money, I would like to buy clothes.’
- c. A2: *Rúguǒ nǐ gěi wǒ qián dehuà wǒ zuì xiǎng mǎi yīfu*
 if 2SG give 1SG money C(-root) 1SG most want buy clothes
 ‘If you gave me some money, I would like to buy clothes.’

Third, when the conditional clause provides an answer to the question in the preverbal adjunct phrase *zài shénme tiáojiàn xià* ‘under what conditions’ and hence clearly conveys new info, it again occupies the topic position:

- (17) a. *Nǐ [zài shénme tiáojiàn xià] huì qù měiguó?*
 2SG in what condition under will go USA
 ‘Under what conditions will you go the US?’
- b. A1: *Guójiā gěi wǒ jiǎngxuéjīn dehuà wǒ huì qù měiguó.*
 state give 1SG scholarship C(-root) 1SG will go USA
 ‘If the state gives me a scholarship, I will go to the US.’

Note that in (17b) the conditional clause *must* occur in the topic position in the answer, the afterthought position at the end of the sentence being excluded here (cf. [17c]). This further corroborates that the topic can encode new information:

- (17) c. A2: # *Wǒ huì qù měiguó {guójiā gěi wǒ jiǎngxuéjīn dehuà}*
 1SG will go USA state give 1SG scholarship C(-root)
 ‘I will go to the US, if the state gives me a scholarship.’

In fact, an answer with the conditional clause as an “afterthought” is only possible if the question itself has that form, as witnessed by the question–answer pair in (16) above. This is confirmed by the unfelicity of (18b) with the conditional clause as afterthought as an answer to (18a), where the conditional clause occurs in topic position. Importantly, this generalisation holds irrespectively of the new/old information status of the conditional clause in the afterthought.⁷

- (18) a. *Rúguǒ wǒ gěi nǐ qián dehuà, nǐ zuì xiǎng zuò shénme?* (= [15a] above)
 if 1SG give 2SG money C(-root) 2SG most want do what
 ‘What would you like to do most if I gave you some money?’

⁷ A sentence with the conditional clause in sentence-final afterthought position is thus structurally different from the “corresponding” sentence with the conditional clause in sentence-initial position, i.e. in the specifier of TopP. The afterthought status of the sentence-final conditional clause can be neatly shown when the matrix sentence is a *yes/no* question involving the sentence-final particle *ma*. In this case, the conditional clause must be adjoined to the right of *ma* (a complementiser, cf. chapter 7 below), i.e. to the right of the CP (cf. [i] and [ii]). This clearly contrasts with the sentence where the conditional clause occurs in the topic position and where the entire sentence including the topic (i.e. TopP) is under the scope of *ma* (cf. [iii]):

- (i) $[_{CP}[_{TP} Nǐ huì qù měiguó] \underline{ma}], rúguǒ guójiā gěi nǐ jiǎngxuéjīn dehuà?$
 2SG will go USA PART if state give 2SG scholarship C(-root)
 ‘Will you go to the US, if the state gives you a scholarship?’
- (ii) * $[_{TP} Nǐ huì qù měiguó], rúguǒ guójiā gěi nǐ jiǎngxuéjīn dehuà ma?$
 2SG will go US if state give 2SG scholarship C(-root) PART
- (iii) $[_{CP}[_{TopP} Rúguǒ guójiā gěi nǐ jiǎngxuéjīn dehuà] [_{TP} nǐ huì qù měiguó]] ma?$
 if state give 2SG scholarship C(-root) 2SG will go US PART
 ‘If the state gives you a scholarship, will you go to the US?’

- b. #*Wǒ zuì xiǎng mǎi yīfu rúguǒ nǐ gěi wǒ qián dehuà*
 1SG mostwant buy clothes if 2SG give 1SG money C(-root)
 ‘I would like to buy clothes, if you gave me the money.’
- c. *Rúguǒ nǐ gěi wǒ qián dehuà, wǒ zuì xiǎng mǎi yīfu* (= [15b] above)
 if 2SG give 1SG money C(-root) 1SG most want buy clothes
 ‘If you gave me some money, I would like to buy clothes.’

To summarize, there is no positional asymmetry for a conditional clause in a question/answer pair, but it remains in the same position irrespective of its changed informational value. Accordingly, a conditional clause in topic position can convey old and new information alike, thus corroborating the claim that the topic position is not associated with a fixed informational value.

In this respect, Chinese clearly differs from English, where the sentence-initial position of adverbial clauses has been associated with old information (cf. Paoli 2007) or presupposed status (cf. Larson and Sawada 2012), and the sentence-final position with new information, respectively. Visibly, the correlations between syntactic position and informational value do not hold cross-linguistically and must be checked for each language.

Let us now turn to the last piece of evidence in favour of the possibility for topics to convey new information, viz. the preposition *zhìyú* ‘as for’, which exclusively serves to introduce topics carrying new information.

- (19) *Nǐ de wèntí wǒ yǐjīng gěi nǐ jiějué-le;* (Charles A. Liu 1977: 205)
 2SG SUB problem 1SG already for 2SG solve-PERF

zhìyú tā de wèntí, wǒ méiyǒu bànfǎ bāng máng
 as.for 3SG SUB problem 1SG NEG method assist help

‘Your problem, I have already solved it for you;
 as for his problem, I have no idea how to help.’

The special semantics of the preposition *zhìyú* ‘as for’ is also mentioned in good grammar manuals such as Lü Shuxiang et al. (2000), where *zhìyú* ‘as for’ is explicitly described as “introducing a different topic”. Lü Shuxiang et al. (2000: 684) furthermore emphasize that in this function *zhìyú* ‘as for’ cannot be replaced by the preposition *guānyú* ‘concerning, about’, a fact which clearly reflects the existence of topics with different informational values (new vs. old information).⁸

- (20) *Zhè jǐnjīn shì wǒ gèrén de yī-diǎn yìjiàn,* (Lü Shuxiang et al. 2000: 684)
 this only be 1SG personal SUB a.bit opinion

*[{ zhìyú/*guānyú } zhèyàng zuò hǎo bù hǎo] qǐng dàjiā zài kǎolü yī xià*
 as.for/ concerning so do good NEG good invite everyone again think 1 time

‘This is only my personal opinion; as for whether doing it this way is correct or not,
 I invite everybody to think about it.’

- (21) *Xióng shì záshí dòngwù, chī ròu chī guǒshí kuàigēn*
 bear be omnivorous animal eat meat eat fruit root.tuber

*{ zhìyú/*guānyú } xióngmāo, zé shì wánquán sùshí de*
 as for / concerning panda.bear then be completely vegetarian DE

⁸ According to Smith (1991: 554), *speaking of* in English likewise serves to shift the direction of discussion and to introduce a new topic.

‘Bears are omnivorous animals, they eat meat, they eat fruit and root tuber;
(now) as for panda bears, they are completely vegetarian.’ (Lü Shuxiang et al. 2000: 684)

- (22) *Xiǎo Lǐ qù Běijīng, Xiǎo Mǎ qù Shànghǎi, Xiǎo Wáng qù Sūzhōu;*
XiaoLi go Beijing XiaoMa go Shanghai XiaoWang go Suzhou

{*zhìyú* / **guānyú* } *Xiǎo Chén me, tā liú -zài zhèr*
as for / concerning XiaoChen TOP 3SG remain-be.at here

‘Xiao Li goes to Beijing, Xiao Ma goes to Shanghai, Xiao Wang goes to Suzhou;
(now) as for Xiao Chen, he stays here.’

As illustrated by examples (20) – (22), the use of *zhìyú* ‘as for’ is also felicitous if the topic carries information that is new with respect to the general subject matter in the preceding discourse, i.e. not necessarily with respect to a previous topic only (as is the case in [19]). As pointed out by Charles A. Liu (1977: 205), *zhìyú* ‘as for’ can never start a conversation, i.e. it cannot introduce a topic out of the blue, but requires a preceding discourse. This constraint is plausible insofar as a topic switch is only possible against the background of already established information. Surprisingly enough, these facts – although observed in the Chinese literature – have not been taken into account when examining topics in Chinese.⁹ Even Charles A. Liu (1977) himself sticks to the idea of topic as exclusively encoding old information, notwithstanding his own description of *zhìyú* as ‘topic switching’, which after all implies a different informational status for the topic “switched to”.

Importantly, these findings for Chinese tie in with the analysis of Romance and Germanic languages presented in Bianchi and Frascarelli (2010). Bianchi and Frascarelli (2010) propose a tripartite classification of topics into *contrastive topics*, *given topics* and *aboutness topics*. While *given topics* resume background information or signal topic continuity, *aboutness topics* are not exclusively associated with old information. On the contrary, “aboutness” topics often involve the shift towards a new topic (hence *aboutness-shift topics*). and are then marked by a sharp rise in the fundamental frequency (F⁰). In the following example taken from the Italian corpus (Bonvino 2006) studied in Frascarelli & Hinterhölzl (2007), a student has been giving her opinion about a self-learning course in a rather general manner before turning to a new topic, i.e. *l’ultima unità* ‘the last unit’, where the rise in the F⁰ contour falls on *unità* (marked in bold face):

- (23) *L’ultima **unità**_k[_{TP} *pro* *la*_k *sto* *facendo*]*
the.last unit it be.PRES.1SG do.GER
‘The last unit, I’m doing it now.’ (Bianchi & Frascarelli 2010: 55, [13’])

Note that Italian is a *pro-drop* language and that accordingly the pronominal subject ‘I’ can remain silent, as is the case in (23). It is the presence of the pronoun *la* referring back to *l’ultima unità* ‘the last unit’ that indicates that the latter has been moved to the topic position in the periphery above TP.

The equation postulated by Li and Thompson (1976) between the definition of the topic as *what the sentence is about* and the exclusively old information status of the topic is thus clearly wrong, not only in Chinese, but also in Romance and Germanic languages.

In the remainder of this chapter, the term *aboutness topic* is therefore used in the sense of Bianchi and Frascarelli (2010), i.e. as being open with respect to the informational value (old or new information). This view of *aboutness* topics also makes much more sense from a functional point of view than the received wisdom, which in fact makes Chinese look like a rather odd language where the prominent position at the sentence beginning is exclusively reserved for old information.

⁹ Shi Dingxu (2000: 386, (5)) – without further explanation – excludes topics introduced by prepositions: “A topic is an unmarked NP (or its equivalent) that precedes a clause and is related to a position inside the clause; a topic represents an entity that has been mentioned in the previous discourse and is being discussed again in the current sentence, namely, topic is what the current sentence is set up to add new information to. The clause related to the topic in such a way is the comment.” (Emphasis mine, WP).

6.1.2. Chafe's (1976) definition of the topic as frame

However, even this more articulate view of *aboutness* topics has its limits, because it is not appropriate for all types of topics.¹⁰ The rather common multiple topic structures in Chinese are a case at hand, where it is far from clear which of the multiple topics should be singled out as the one that indicates what the sentence “is about”.¹¹

- (24) *Zhōngguó, dà chéngshì, Shànghai, jiāotōng zuì luàn*
 China big town Shanghai traffic most chaotic
 ‘In China, among the big towns, in Shanghai, the traffic is the most chaotic.’
- (25) *[Míngtiān de huìyì yánqī], [měi ge huìyuán], [TP wǒ dōu tōngzhī-guo le]*
 tomorrow SUB meeting postponement every CL member 1SG all inform-EXP PART
 ‘As for the postponement of tomorrow’s meeting, every member, I have informed them.’
 (Xu and Liu 1998: 73; [6b])
- (26) *[Zhè jǐ nián], [pīpàn huì], lǎohàn jiàn-duō le* (Lü Shuxiang 1986: 334)
 this several year criticism.meeting old.man see -much PART
 ‘These last few years, criticism meetings, the old man has seen too many.’

Note in passing that multiple topic structures again challenge the idea of topics as exclusively conveying old information. In (24) above, depending on the context, at least the two topics *dà chéngshì* ‘big cities’ and *Shànghai* carry new information.

Likewise, topics that are not referential expressions such as adverbs, QPs, clauses etc. do not indicate “what the sentence is about”. For example, (27) with *bàn-ge xiǎoshí de shíjiān* ‘half an hour time’ as topic can be the introductory sentence at the beginning of a talk, where *bàn-ge xiǎoshí de shíjiān* does not represent “what the sentence is about” and does not convey given information, either:

- (27) *Bàn ge xiǎoshí de shíjiān, wǒ zhǐ néng gěi nǐmen jiǎng ge dàgài*
 half CL hour SUB time 1SG only can for 2PL talk CL broad.outline
 ‘In half an hour time, I can only give you a broad outline.’

The same holds for clausal topics already encountered above, which do not indicate “what the sentence is about”, either:

- (28) *Rúguǒ nǐ gěi wǒ qián dehuà, wǒ zuì xiǎng mǎi yīfu* (= [15b] above)
 if 2SG give 1SG money C(-root) 1SG most want buy clothes
 ‘If you gave me the money, I would like to buy clothes.’

This type of data, where the aboutness definition fails can, however, be very well accommodated by Chafe's (1976) definition of the topic as the “frame within which a sentence holds ... limit[ing] the applicability of the main predication to a certain restricted domain”. Note that this conception of the topic is neutral with respect to the type of information (old or new) conveyed by the topic, as can be seen from the passage below citing Chafe's (1976) view on “topics, Chinese style”. I cite this passage *in extenso* because it explicitly addresses some problems with the notion of *aboutness topics*:¹²

¹⁰ The longevity of the idea that a topic is exclusively “what the sentence is about” is illustrated by the recent special issue of *The Linguistic Review* (vol. 26, nr. 2-3, 2009). Also cf. Huang, Li and Li 2009: 203)

¹¹ Shi Dingxu (2000) does not discuss multiple topic constructions, although they are rather common in Chinese. This is probably due to the fact that at least one of the topics in a multiple topic construction is often a base-generated topic which cannot be derived by extraction from the comment clause, thus challenging Shi's (2000: 386; (5)) stipulation that “a *topic* [...] is related to a position inside the clause” (emphasis mine, WP). For a critical appraisal of Shi Dingxu (2000), cf. Pan & Hu (2002) and Xu Liejiong (2006).

¹² In fact, Li & Thompson (1976, 1981) do mention Chafe's (1976) definition of topic as frame: “Another way of talking about ‘what the sentence is about’ is to say that a topic sets a spatial, temporal, or individual framework within which the main predication holds.” (Li & Thompson 1981: 85). However, they present it as a kind of

(15) Nèixiē shùmù shù-shēn dà
those tree tree-trunk big

(16) Nèi-ge rén yáng míng George Zhang
that person foreign name George Zhang

(Chafe 1976: 50 - 51; emphasis mine, WP)

(29) [_{CP}[_{TopP} [_{TP} *Nǐ yàoshi è -le*] [_{Top'} [_{Top°} *ne*],
2SG if hungry-PERF TOP
[_{TP} *jiù zìjǐ zuò diǎn chī*]]]
then self make a.bit eat
‘If you are hungry, make yourself something to eat.’
(Lü et al. 2000: 413)

(30) $[_{CP}[_{TopP} Qíshí \text{ actually } [_{Top}[_{Top^\circ} ne \text{ TOP } [_{TP}[_{TP} \bar{t}ā \text{ 3SG } bù \text{ NEG } lái \text{ come } yě \text{ also } hǎo \text{ good }]]]]]]$
 ‘In fact, it’s as well that he doesn’t come.’ (Lü et al. 2000: 413)

(31) *Wǒ kěyǐ zhuān xīnde tīng liǎng ge xiǎoshí de kè,*
 1SG can attentively listen 2 CL hour SUB class
kěshì [QP sān ge xiǎoshí] ne, wǒ juéde jiù bù xíng
 but 3 CL hour TOP 1SG feel then NEG possible
 ‘I can attentively attend a class for two hours, but three hours,
 I think, this is just not possible.’

(32) *[_{VP} chī fàn], Zhāngsān hěn huì,*
eat food Zhangsan very know
[_{VP} zuò shì], tā yī diǎn dōu bù huì
do matter 3SG 1 bit all NEG know

11

‘Zhangsan, he for sure knows how to eat, but he doesn’t know at all how to work.’
(slightly changed example from C.-T. James Huang 1982: 164, [93])¹³

The preceding examples also demonstrate once again that topics do not exclusively convey given information.

To summarize this section, the topic in Chinese has two functions, viz. conveying an aboutness relation (including the shift towards a new topic) or setting up the frame within which a sentence holds. Importantly, neither of these two functions is associated with a particular informational content (new vs. old information), thus challenging the dominant view within Chinese linguistics and beyond that wants to restrict topics to given info only.

6.1.3. *The contrastive use of topics*

Based on the incorrect assumption that topics exclusively convey old information, contrastively interpreted XPs in topic position have often been misanalysed as focus (cf. Krifka 1998; Tsai Wei-tian [1994: 137–139], a.o. and the special issue on topics in *The Linguistic Review* 26, nr. 2/3 [2009]), thereby increasing the confusion concerning the topic even more:

- (33) *Shànghǎi, wǒ yǐjīng qù-guo le , kěshì Tiānjīn, wǒ hái méi qù-guo*
Shanghai 1SG already go-EXP PART but Tianjin 1SG still NEG go-EXP
‘I have already been to Shanghai, but Tianjin, I have not been there yet.’
- (34) *Zhèi ge xuéshēng, wǒ xǐhuān, nèi ge xuéshēng, wǒ bù xǐhuān*
this CL student 1SG like that CL student 1SG NEG like
‘This student, I like, that one, I don’t.’

However, an analysis of the contrasted topics as focus is not borne out by the overall syntax of Chinese (cf. Paul 2002, 2005b; Victor Junnan Pan 2011a). For any constituent in any position can be assigned a contrastive interpretation in Chinese, as illustrated by the parallel constructions below, where the contrasted phrases are underlined.

- (35) *Wǒ kàn-guo shān , dànshì méi kàn-guo hǎi*
1SG see-EXP mountain but NEG see-EXP sea
‘I have seen the mountains, but I have not seen the sea.’
- (36) *Zhāngsān yǐjīng lái -le (kěshì) Lǐsì hái méi lái*
Zhangsan already come-PERF but Lisi still NEG come
‘Zhangsan has already come, (but) Lisi hasn’t.’
- (37) *Wǒ jīntiān gēn Zhāngsān qù kàn diànyǐng, míngtiān gēn Lǐsì qù*
1SG today with Zhangsan go see movie tomorrow with Lisi go
‘I go to the movies today with Zhangsan, and tomorrow with Lisi.’

No particular phonological emphasis is needed here; on the contrary, it would make the sentences (35) – (37) less natural.¹⁴ Applied to (34) – (35), this means that the topics receive phonological stress by virtue of being sentence-initial, not because of their being contrasted. In (34) for example, *zhèi* ‘this’ and *nèi* ‘that’ are stressed as well as the negation *bù*.

¹³ C.-T. James Huang (1982: 164) provides (32) in order to illustrate the status of VP as a maximal, hence moveable projection. The observation that VP preposing is possible only when the VP is the complement of an auxiliary is due to C.-C. Jane Tang (1990: 203, note 22). Translated into the current framework, (32) is an instance of *vP* preposing.

¹⁴ Thanks to Fu Jingqi and Xu Dan for this observation.

Consequently, a contrastive interpretation has to be distinguished from focus, because otherwise a proliferation of focus positions would be obtained, coinciding in fact with all the positions available for arguments and adjuncts in general.¹⁵

Whether a contrastively interpreted topic counts as an instance of old or new information depends largely on the role assigned to the extralinguistic constraint of contextual relevance, which is often interpreted as implying the given information status of all items in an assertion via their belonging to the common ground (the only exception being “out of the blue” sentences, cf. the discussion in section 6.1.1 above). For Bianchi & Frascarelli (2010), for example, contrastive topics are typically given, because related to a contextually salient set of alternatives; however, their update potential is provided by contrast, not by mere givenness. (Also cf. Erteschik-Shir (2007: 11) for a similar view). As already stated above (cf. section 6.1.1), this is not the stand to be adopted here, because – as pointed out by Reinhart (1982: 33, note 11) – such an all-encompassing conception of what counts as given information renders this very notion unoperational.¹⁶ Accordingly, contrastive topics are considered here as another instance of topics conveying new information.

Last, but not least, to round up this discussion on a possible link between informational content and syntactic position, it is important to point out that there is no dedicated position for elements bearing *new* information, either, as evidenced by the answers to different types of *wh* questions:

- (38) *Shéi lái -le ? Zhāngsān lái -le*
 who come-PERF Zhangsan come-PERF
 ‘Who has come? Zhangsan has come.’
- (39) *Tā kàn-guo shénme? Tā kàn-guo yī jiàn chēhuò*
 3SG see-EXP what 3SG see-EXP 1 CL accident
 ‘What has he seen? He has seen an accident.’
- (40) *Mǎlì gēn shéi qù kàn diànyǐng? Mǎlì gēn Lìsì qù kàn diànyǐng*
 Mali with who go see movie Mali with Lisi go see movie
 ‘With whom does Mary go to the movies? Mary goes to the movies with Lisi.’

Given that Chinese is a *wh*-in-situ language, the constituent bearing the requested, hence new information in the answer occupies different positions (pre- and postverbal), in accordance with the position of the *wh*-phrase.

This straightforwardly invalidates the claim made by Xu Liejiong (2004: 277) (based on LaPolla 1995) that “the sentence-final position [...] is the default position for informational focus [i.e. new information; WP] in Chinese”. In the face of the numerous counterexamples to his claim of the

¹⁵ There is a consensus now in general linguistics that contrastivity is a possible feature of both topic and focus, hence independent of either; cf. a.o. Pereltsvaig (2004) and the special issue on contrast in *Lingua* 120, nr. 6 (2010).

¹⁶ The following passage citing Erteschik-Shir’s (2007: 11) comments on the Catalan example (i) by Villalba (1998) illustrates the consequences of the view that all elements in discourse must in fact count as given:

(i) A: *On va posar les coses?*
 where PAST-3 put the things
 ‘Where did she put the things?’

B: *Em sembla que les llibres, els va posar al despatx*
 to-me seems that the books them-MASC PAST-3 put in-the study
 ‘It seems to me that (s)he put the books in the study.’

(Glosses adopted from Erteschik-Shir)

According to Erteschik-Shir (2007: 11), “topics derived from hyperthemes are ... *new topics*. ... In order for the question–answer sequence to be acceptable, it must be contextually understood that *the books* belong to the set of things in the question. Introducing this set in the question conjures up all its elements, each of which is then considered to be *given* and can potentially provide a link in the following sentence. A *link* [i.e. an ‘address pointer’ in a file system in which new information is listed under the address specified by the link; WP] can in this way be both *new* and *given* at the same time. What is *newly* introduced is the particular member of the set in question; what is *given* is the set that includes it.” (emphasis mine, WP).

I must admit that I am puzzled by this description, where items can be both given and new at the same time, and I am not sure whether to allow for this type of hybrid status is theoretically desirable.

type illustrated in (38) – (40), Xu Liejiong (2004: 298) is forced to relativize it as follows: “In Chinese the focused element [i.e. the element bearing new information; WP] should take the default focus position as far as possible. Once it is in this position, stress is not required. Phonological realization is a compensatory device where the expression intended to be focused cannot occur in the default position due to some structural limitation.” Note that according to the native speakers consulted, the constituent corresponding to the questioned element in general is *not* stressed, irrespective of its pre- or postverbal position.

6.1.4. *Interim summary*

The preceding discussion has provided extensive evidence in favour of the claim that the topic is *not* associated with a fixed informational value. On the contrary, the topic can convey both old and new information, as e.g. evidenced by D-linked *wh* phrases in topic position, the existence of the preposition *zhìyú* ‘as for’ indicating an “aboutness shift”, and the lack of a positional asymmetry in question – answer pairs for clausal topics such as conditionals.

Importantly, this lack of a specific informational value (in particular old information) for the topic ties in with a general property of Chinese grammar, i.e. the non-existence of a mechanic correlation between a given syntactic position and a particular informational content. In other words, Chinese does not have a dedicated position for contrastive or new information, either (*contra* Xu Liejiong 2004, LaPolla 1995 a.o.).

Furthermore, the topic can not only indicate “what the sentence is about”, but it can also set the frame within which the (comment) sentence holds (cf. Chafe 1976). Note again that none of these two functions is associated with a particular informational value, given that an *aboutness* topic can also involve the shift towards a new topic, a possibility likewise observed in Romance languages (cf. Bianchi and Frascarelli 2010).

The frame setting function of topics not only allows to accommodate non-referential topics (e.g. conditional clauses, adverbs etc.), but also to account for multiple topic structures in Chinese, i.e. those cases where the aboutness definition simply fails. As a result, Li and Thompson’s (1976) equation between the topic as “what the sentence is about” and its exclusively conveying familiar information is abandoned, thereby following Reinhart (1982:17): “Although the two definitions of topics – as ‘old information’ or as what the sentence is about – are often used interchangeably (i.e. it is assumed that what the sentence is about is necessarily the old-information referent), we shall see that they are clearly distinct (i.e. they define different sets) and that topics cannot be defined in terms of old information, both on empirical and theoretical grounds.”

6.2. The syntactic derivation of the topic: *in situ* and moved

So far the discussion has concentrated on the interpretative aspects of the topic. I now turn to the syntactic side, i.e. the question whether the topic occupies the sentence-initial position as the result of movement from a position within the sentence or whether it is base-generated in that position, i.e. an *in situ* topic. This issue was hotly debated in the past and both “extreme” views were defended, i.e. either all topics are derived by movement (cf. a.o. Shi Dingxu 2000) or all topics are base-generated (cf. Xu and Langendoen, Xu Liejiong 2006). The general consensus today is that both derivations must be allowed for, i.e. derivation by movement and base-generation (cf. a.o. Y.-H. Audrey Li 2000, Huang, Li and Li 2009, chapter 6.1), and this is also the position to be adopted here.

6.2.1. *In situ* topics

Let us first turn to base-generated topics, which since Li and Thompson (1976) and Chafe (1976) have been dubbed “Chinese style” topics. In fact, many of the examples provided above precisely involve this kind of topic, where the sentence does not contain any gap from which the topic could have moved from, as witnessed by the ungrammaticality of the corresponding sentences where the topic XP is incorporated into the TP:

- (41) a. [_{DP} Zhè jiàn shì], nǐ jiù fàng xīn ba (= [1] above)
 this CL matter 2SG then put heart PART
 ‘Concerning this matter, you can put your mind at ease.’ (Lü Shuxiang 1986: 334)

- b. **Nǐ jiù fàng xīn [DP zhè jiàn shì] ba*
 2SG then put heart this CL matter PART
- (42) a. [_{DP} *Míngtiān de huìyì], dàjiā dōu tōngzhīdào-le*
 tomorrow SUB meeting everybody all notified -PERF
 ‘Tomorrow’s meeting, everybody was notified.’
- b. **Dàjiā dōu tōngzhīdào-le [DP míngtiān de huìyì]*
 everybody all notified -PERF tomorrow SUB meeting
- (43) a. *Wǒmen de zhōngwén bān, shí ge xuéshēng yǐjīng bì yè le*
 1PL SUB Chinese class 10 CL student already finish study PART
 ‘Our Chinese class, ten students have already graduated.’
- b. **Shí ge xuéshēng yǐjīng bì yè [DP wǒmen de zhōngwén bān] le*
 10 CL student already finish study 1PL SUB Chinese class PART

In a multiple topic sentence of the type illustrated in (44), all topics are base-generated:

- (44) *Zhōngguó, dà chéngshì, Shànghǎi, jiāotōng zuì luàn* (= [24])
 China big town Shanghai traffic most chaotic
 ‘In China, among the big towns, in Shanghai, the traffic is the most chaotic.’

Note that this holds in general for “telescoping” multiple topic structures where the leftmost topic denotes a superset with respect to the topic on its right. Given the general scope relations in Mandarin where the leftmost item is structurally higher than, i.e. has scope over, the item(s) to its right (cf. C.-T. James Huang 1982, C.-C. Jane Tang 1990, 2001; Ernst 2002), it follows that the relative order between these topics is fixed:

- (45) **Dà chéngshì, zhōngguó, Shànghǎi, jiāotōng zuì luàn* (= [24])
 big town China Shanghai traffic most chaotic

(45a) is unacceptable because *zhōngguó* ‘China’ follows, i.e. is in the scope of *dà chéngshì* ‘big cities’, thus contradicting the ‘superset – subset’ relation between the two.

There is a special case of base-generated topics such as (46) which at first sight looks like moved topics with a corresponding gap in the sentence:

- (46) *Lìsì, [[e_i chàng gē de] shēngyīn] hěn hǎotīng* (Huang, Li and Li 2009: 210, [49a];
 Lisi sing song DE voice very good their glosses and translation)
 ‘Lisi, the voice with which [he_i] sings is very good.’

Given that the gap, i.e. the empty category *e*, is in the subject position of a relative clause embedded in a DP, (46) is predicted to be unacceptable, because violating Ross’ (1967) *Complex NP Constraint* (CNPC), which precisely precludes movement from such a DP (also cf. section 6.2.2. immediately below). The comparison of (46) with (47) demonstrates that the CNPC does hold for Chinese:

- (47) **Lìsì, wǒ hěn xǐhuān [DP [_{TP} e_i chàng gē de] shēngyīn]*
 Lisi I very like sing song DE voice
 (Huang, Li and Li 2009: 210, [49b])

While the literature in general limits itself to DPs when illustrating *in situ* topics, it is important to include adjunct phrases of all types here, i.e. adjunct PPs, PostPs and NPs as well as adverbs and clauses (e.g. conditional clauses discussed in section 6.1.2 above).

- Assuming with C.-C. Jane Tang (2001) that adjuncts are base-generated in the position they occupy, sentences with an adjunct XP in topic position thus all illustrate *in situ* topics.¹⁸ This has already been

[...] preposed adverbs can occupy at least three distinct structural positions in the left periphery. Normally, they occupy a dedicated position [i.e., ModP, W.P.] which is intonationally similar to a topic position, but differs from it in that the adverb position does not require a connection with the previous discourse context [...]. In very special discourse contexts, i.e., when they have been mentioned in the immediately preceding discourse, preposed adverbs can also be moved to a genuine topic position, with the familiar characteristics of ordinary topics (e.g., can precede *wh* operators, etc.). And on top of these two options, adverbial elements can also be moved to the initial focus position [...]; in this case they behave like any other element moved to the left peripheral focus position (contrastive interpretation, uniqueness, etc.; see Rizzi 1997 for discussion).” (Rizzi 2004: 241).

demonstrated above for conditional clauses whose default position is Spec,TopP (cf. [15] above). In the case of adjunct NPs and AdPs, the topic position is one of the three available positions, in addition to the position below the subject and below auxiliaries. (Note, though, that the latter position is excluded for sentential adverbs.)

- (53) *Wǒ {zài túshūguǎn} kěyǐ {zài túshūguǎn} fùyìn ma?*
 1SG in library can in library xerox PART
 ‘Can I make photocopies in the library?’
- (54) *Wǒ {chúxī yǐqián} yào {chúxī yǐqián} huí jiā*
 1SG New.Year’s.Eve before need New.Year’s.Eve before return home
 ‘I need to go home before New Year’s Eve.’
- (55) *Tā {míngtiān} huì {míngtiān} zǒu*
 3SG tomorrow will tomorrow leave
 ‘Tomorrow, he will leave.’
- (56) *Tā {jūrán / xiǎnrán / qíshí } bù liǎojiě wǒmen de qíngkuàng*
 3SG unexpectedly/ obviously/ in.fact NEG understand 1PL SUB situation
 ‘{Unexpectedly/obviously/in fact} he does not understand our situation.’

Considering the different positions available for these adjuncts as base-generated rather than as landing sites for movement allows a more straightforward account for the distribution of adjuncts, in particular the associated scope differences where an adjunct in topic position has a larger scope than the same adjunct in a TP-internal preverbal position.¹⁹

The inclusion of adjunct XPs under *in-situ* topics also once again demonstrates that the topic cannot be exhaustively defined as “what the sentence is about” and that it is necessary to take into account the frame-setting function of topics à la Chafe (1976) as well. This is important insofar as the “aboutness” definition of (base-generated) topics is still the dominant one (cf. a.o. Huang, Li and Li (2009: 203).

6.2.2. Topics derived by movement

Taking up the arguments discussed in Y.-H. Audrey Li (2000) and in Huang, Li and Li (2009, section 6.1.1), this section discusses the necessity of postulating moved topics in addition to *in situ* topics.

First, if the topic in a structure such as (57a) is derived by movement, the unacceptability of (57a) can be explained as on a par with that of (57b) (cf. Huang, Li and Li 2009: 204–205; [29], [31]; their glosses and translations):

By contrast, the distribution of the different types of adjuncts in Chinese does not seem to warrant a movement analysis for adjuncts in the left periphery.

First, unlike in Italian, VP-level adverbs in Chinese (e.g. *yě* ‘also’, *xiān* ‘first’, *yǐjīng* ‘already’, *gāng* ‘just’ and manner adverbs) are confined to a sentence (TP)–internal preverbal position and can never occur to the left of the subject (cf. Paul [to appear] for further discussion). In addition, in Chinese adjuncts in topic position pattern with DP/NP topics and there is thus no need for a dedicated position ModP in the sentence periphery (cf. Paul 2005b). Last, but not least, sentential adverbs in fact comprise two groups: one group, represented by *xiǎnrán* ‘obviously, evidently’, may occur both to the left and the right of the subject, whereas the other group, represented by *kěxī* ‘unfortunately’ is limited to the sentence-initial position:

- (i) $[_{\text{TopP}} \{ \text{Xiǎnrán} / \text{jūrán} \} \quad [_{\text{TP}} \text{tā} \quad [_{\text{TopP}} \{ \text{xiǎnrán} / \text{jūrán} \} \quad \text{zhēn} \quad \text{tǎoyàn} \quad \text{xiǎoháizi}]]]$
 obviously/ unexpectedly 3SG obviously/ unexpectedly really hate child
 ‘{Obviously/unexpectedly} he {obviously/unexpectedly} really hates children.’
- (ii) $[_{\text{TopP}} \text{Kěxī} \quad [_{\text{TP}} \text{tā} \quad (*\text{kěxī}) \quad \text{bù} \quad \text{néng} \quad \text{lái}]]$
 unfortunately 3SG unfortunately NEG can come
 ‘Unfortunately, he cannot come.’

¹⁹ Under a movement analysis, one would have to exclude the *reconstruction effect*, i.e. an interpretation based on the structure where the adverb is “put back”, i.e. *reconstructed* into its original position prior to movement (cf. section 6.2.2 immediately below).

- (57) a. * $[_{TopP} Zhāngsān_i [_{TP} tā_i bù rènshì t_i]]$
 Zhangsan he not know
 *‘Zhangsan_i, he_i doesn’t know.’
- b. * $[_{TP} Tā_i bù rènshì Zhāngsān_i]$
 he not know Zhangsan
 *‘He_i doesn’t know Zhangsan_i.’

(57b) is unacceptable under a reading where the pronoun *tā* is coreferential with *Zhangsan*, because referential expressions such as proper nouns must not be coindexed with a c-commanding noun in an argument position (cf. condition C of the binding principles in Chomsky 1981).²⁰ Assuming that *Zhangsan* has moved from the postverbal object position to the topic position and that the interpretation is based on this original position prior movement (*reconstruction*) thus allows us to straightforwardly account for the impossibility of interpreting *Zhangsan* and *tā* ‘he’ as coreferential. The same reconstruction effect as in (57a) is observed in (58):

- (58) * $Zhangsan_i [_{TP} tā_i shuō Lìsì kànjiàn-le t_i]$ (Huang, Li and Li 2009: 205, [32b];
 Zhangsan he say Lisi see -LE their glosses and translation)
 *‘Zhangsan_i, he_i said that Lisi saw e_i.’

The interpretation of the pronoun *tā* ‘he’ as coreferential with *Zhangsan* is excluded in (58) for exactly the same reason as in (59); here the referential expression *Zhāngsān* is coindexed with the pronoun *tā* ‘he’ which c-commands it, a configuration ruled out by binding principle C:

- (59) * $Tā_i shuō [Lìsì kànjiàn-le Zhāngsān_i]$ (Huang, Li and Li 2009: 205, [33])
 he say Lisi see -LE Zhangsan their glosses and translation)
 *‘He_i said that Lisi saw Zhangsan_i.’

(57a) and (58) with a moved topic thus clearly contrast with (60) where the *in situ* topic *Zhangsan* and the subject *tā* ‘he’ are analysed as being coreferential:

- (60) $[_{TopP} Zhangsan_i [_{TP} tā_i zǒu -le]]$ (Huang, Li and Li 2009: 204, [28a])
 Zhangsan he leave-LE their glosses and translation)
 ‘Zhangsan_i, he_i left.’

A second argument in favour of the existence of moved topics is provided by idiomatic verb–object phrases such as *kāi dāo* ‘open knife’ = operate on sb., *kāi wánxiào* ‘open joke’ make fun of sb., *chī cù* ‘eat vinegar’ = ‘to be jealous’ etc.²¹ Given that the idiomatic reading relies on the contiguity of the verb and the object, a structure where the object occupies a topic position must be the result of movement (cf. Huang, Li and Li 2009: 206):

- (61) $[_{TopP} [_{DP} Zhè zhǒng wánxiào]_i [_{TP} wǒ bù gǎn kāi t_i]]$
 this kind joke 1SG NEG dare open
 ‘This kind of joke, I don’t dare to make.’

²⁰ Binding principles (cf. Chomsky 1981):

- A. An anaphor is bound in its governing category.
 B. A pronominal is free in its governing category.
 C. A R(eferential)–expression is free.

For further discussion of these conditions and their implementation in Chinese, cf. Huang, Li and Li (2009, chapter 9).

²¹ Cf. Paul (1988) for an extensive discussion of the syntax and semantics of idiomatic and non-idiomatic verb–object phrases.

Third, locality constraints governing movement are another diagnostic for topics derived by movement. Besides the *Complex Noun Phrase Constraint* (CNPC) already discussed above and again illustrated in (62) below; there exist other constraints on movement such as the *Left Branch Condition* (LBC) (cf. [63]) and the *Adjunct Island Constraint* (AIC) (cf. [64]), subsumed by Huang (1982, chapter 6.4) under a single *Condition on Extraction Domain* (CED) (also cf. Huang, Li and Li 2009: 208):

- (62) *_[TopP] *Lǐsì_i [TP wǒ hěn xǐhuān [DP [TP e_i chàng gē de] shēngyīn]]] (= [47] above)
 Lisi I very like sing song DE voice
 ‘Lisi_i, I like the voice with which e_i sings.’*

- (63) *_[TopP] *Zhāngsān_i [TP wǒ kànjiàn-le [NP e_i bàba]]]*
 Zhangsan I see LE father
 ‘Zhangsan_i, I saw [his_i] father.’

- (64) **Lǐsì_i [TP zhè jiàn shì [PP gēn [TP e_i méi lái]]] méiyǒu guānxi]*
 Lisi thisCL matter with not come not have relation
 ‘Lisi_i, this matter is not related to [his_i] not having come.’

([62] – [64] are examples [41b], [42], and [43] from Huang, Li and Li 2009: 208 with their glosses and translations; bracketing supplied by me.)

(63) illustrates the LBC which excludes extraction of a modifier XP from an NP, and (64) the AIC blocking movement from an adjunct.

Apparent counter-examples to the LBC of the type illustrated in (65) where at first sight the topic seems to have moved from the modifier position within the NP again involve an empty pronoun, *pro*; in other words, the topic turns out to be generated *in situ* (cf. section 6.2.1 above):

- (65) *Zhāngsān_i [TP [NP pro_i bàba] hěn yǒuqián]* (Huang, Li and Li 2009: 209, [45])
 Zhangsan father very rich
 ‘Zhangsan_i, [his_i] father is rich.’

Since nothing intervenes between *pro* and the topic, *pro* can be controlled by and coindexed with the base-generated topic, thus ensuring that the sentence makes a statement concerning the topic and is a felicitous comment.

In order to obtain a complete picture of when to assume movement and when base-generation of a topic, it is once again necessary to take into account *adjunct* adpositional phrases (AdPs). According to Y.-H. Audrey Li (2000: 3), PPs in topic position must be the result of movement and cannot be base-generated, because a *pro* cannot be a PP (cf. Saito 1985) and there exists thus no configuration where *pro* is controlled by a base-generated topic PP.²²

- (66) a. *[Duì Zhāngsān]_i, wǒ zhīdao tā t_i bù zěnmē guānxīn*
 to(wards) Zhangsan 1SG know 3SG NEG how care
 ‘Zhangsan, I know he doesn’t quite care for.’
 b. *[PP Cóng zhè jiā yínháng], wǒ zhīdao wǒmen kěyǐ t_i jièdào hěn duō qián*
 from this CL bank 1SG know 1PL can borrow very much money
 ‘From this bank, I know we can borrow a lot of money.’
 c. *[PP Gēn zhè zhǒng lǎoshī], wǒ zhīdao wǒ t_i yīdìng xué -bù -hǎo*
 with thiskind teacher 1SG know 1SG certainly learn-NEG-good

²² “Saito (1985) observes that a *pro* cannot be a PP and therefore a displaced PP must be the result of movement rather than coindexing with a base-generated *pro*. Chinese topic structures allow a PP to be a topic. If a PP cannot be base-generated because of the lack of a PP *pro*, the topic PP must be the result of topicalization.” (Y.-H. Audrey Li 2000: 2).

‘With this kind of teacher, I know I certainly will not learn well.’
(cf. Y.-H. Audrey Li 2000: 2–3, [2a-c])

However, this deduction is not correct, because it excludes – without further explanation – the option of base-generating XPs in the topic position *without* any coindexed *pro* in the sentence. This derivation is required, though, for cases of “Chinese style topics” ([41] – [43]), multiple “telescoping” topics as (44) (cf. section 6.2.1 above) and for conditional clauses (cf. the discussion of [15] above). Furthermore, in a framework where the distribution of adjuncts in general is obtained not by movement from a single “original” position, but by base-generation in the different (sentence-external and sentence-internal) positions available, there is no other way to account for adjunct AdPs in TopP. Also note the existence of PPs that are confined to the topic position and excluded from the TP-internal position, such as the PPs headed by *guānyú* ‘concerning’ (cf. Lü Shuxiang et al. 1980: 240).

(67) a. [_{TopP}[_{PP} *Guānyú zhōngcǎoyào*] [_{TP} *wǒ zhīdao de hěn shǎo*]]
concerning Chinese.medicine 1SG know DE very little
‘Concerning traditional Chinese medicine, I know very little.’

b. * [_{TP} *Wǒ* [_{PP} *guānyú zhōngcǎoyào*] *zhīdao de hěn shǎo*]
1SG concerning Chinese.medicine know DE very little

This case cannot be accommodated by the movement scenario, either, because the latter crucially presupposes a TP-internal base position from which the PP in question has raised. Accordingly, the PP must have been base-generated in TopP.

In the same vein, it is important to note the strong preference for PostPs to occur in TopP when their complement is a clause with an overt subject.

(68) a. [_{TopP}[_{PostP} [_{TP} *Tā bān jiā*] *yǐhòu*]] [_{TP} *wǒ jiù méi shōudào tā de xìn*]]
3SG move home after 1SG then NEG receive 3SG SUB letter
‘Since he moved, I haven’t had any letters from him.’

b. * [_{TP} *Wǒ* [_{PostP} [_{TP} *tā bān jiā*] *yǐhòu*] *jiù méi shōudào tā de xìn*]
1SG 3SG move home after then NEG receive 3SG SUB letter

(69) a. [_{TopP}[_{PostP} [_{TP} *Tā dào zhōngguó*] *yǐlái*]] [_{TP} *wǒmen měi tiān jiàn miàn*]]
3SG go China since 1PL every day see face
‘Since he has come to China, we meet every day.’

b. * [_{TP} *Wǒmen* [_{PostP} [_{TP} *tā dào zhōngguó*] *yǐlái*] *měi tiān dǎ diànhuà*]
1PL 3SG go China since every day callphone

This again casts doubt on extraction from a sentence-internal position as the only derivation possibility for topic AdPs.

To conclude, an adjunct AdP in topic position involves an *in situ* topic without any empty pronoun in the TP. This challenges not only Y.-H. Audrey Li’s (2000) view, but also the classification of topics by Badan (2007) and by Del Gobbo and Badan (2010), where PPs are likewise automatically derived by movement. More precisely, they are identified as cases of *left dislocation*, an analysis going back to Benincà & Poletto (2004). (Note that neither Y.-H. Audrey Li [2000] nor Del Gobbo and Badan [2010] take into consideration PostPs.).

(70) *Gěi Zhāngsān, wǒ t_i jì -le yī fēng xìn* (Del Gobo and Badan 2010: 73, [25])
to Zhangsan 1SG send-PERF 1 CL letter
‘To Zhangsan, I sent a letter.’

A closer look at the examples in Y.-H. Audrey Li (2000) (cf. [66] above) and Del Gobbo and Badan (2010) reveals that they involve argument PPs. At best then, the correlation between a topic PP and its derivation by movement holds for argument PPs only, but not for adjunct AdPs.²³

To summarize, topics can be derived in two ways, either by extraction from a position within the sentence or by base-generation; the latter is the only option in the case of adjuncts and conditional clauses.

6.3. Topic vs. subject

Given that the definition of topic used here is a syntactic one, with the *topic* indicating an XP in the position to the left of the subject occupying Spec,TopP, it follows that the topic is necessarily different from the subject. This contrasts with a semantico-pragmatic definition where the topic refers to the general theme of discourse, which may or may not coincide with the subject. (cf. a. o. Krifka 2007 and the special issue on topics in *The Linguistic Review* 26, nr. 2/3 [2009]).²⁴ Accordingly, in the approach adopted here where topic and subject *qua* positions are distinct, notations often encountered in the literature such as “subject/topic” and terms such as “topical subjects” (meant to refer to subjects encoding given information) are impossible. Evidently, this does not exclude movement of the subject to the topic position (cf. [71] – [73]) nor coreferentiality between a topic and a pronoun in the subject position (cf. [74])

- (71) $[_{TopP} [_{DP} \text{Sān ge xuéshēng}]_i [_{TP} \text{wǒ xiǎng } [_{TP} t_i \text{ shì bù gòu de}]]]$
 3 CL student 1SG think be NEG enough DE
 ‘Three students, I think are not enough.’ (Huang, Li and Li 2009: 289, [11b])

- (72) $[_{TopP} \text{Zhè } [_{TP} \text{wǒ yǐwèi } [_{TP} t_i \text{ gèng zhíde shèn sī }]]]$ (Lü Shuxiang 1986: 334)
 this 1SG assume more worth deep think
 ‘This, I consider it is even more worthwhile to think about thoroughly.’

²³ Note, though, that the argument PPs in question all occupy a preverbal position when TP-internal, whereas the canonical position for arguments is postverbal. In fact, the PPs headed by *cóng* ‘from’, *duì* ‘towards’ and *gēn* ‘with’ can never occur in postverbal position, even when selected as argument by the verb. As for the *gěi*-PP indicating the goal in Del Gobbo and Badan’s (2010) example, it can occur in two TP-internal positions, either postverbally or preverbally, and it is therefore difficult to decide from which of these two positions the topicalized *gěi*-PP has raised.

- (i) $\text{Wǒ } \{gěi \text{ Zhāngsān}\} jì -le \text{ yī fēng xìn } \{gěi \text{ Zhāngsān}\}$
 1SG to Zhangsan send-PERF 1 CL letter to Zhangsan
 ‘I sent a letter to Zhangsan.’

Given that such a goal *gěi*-PP is unacceptable in topic position when originating from an island (e.g. a complex NP as in [ii]), it is clear, though, that it must have moved there, thus violating Ross’ (1967) *Nominal Island constraint*:

- (ii) $*[_{TopP} [_{PP} \text{Gěi Mǎlǐ}] [_{TP} \text{wǒ rènshi } [_{DP} [_{TP} \emptyset_i t_{PP} \text{ dǎ diànhuà de }] nèi ge nánhái}]]]$
 to Mary 1SG know call phone SUB that CL boy
 (‘*To Mary, I know the boy who called on the phone.’) (Paul and Whitman 2008: 445, footnote 27)

The picture is, however, complicated by the fact that argument PPs cannot always be topicalized (cf. chapter three, footnote 16)

- (iii) $(*[_{PP} \text{Cóng nóngcūn}]) [_{TP} \text{tā gāngcái } [_{PP} \text{cóng nóngcūn}] \text{ huílai-le}]$
 from village 3SG just from village return-PERF
 ‘He has just returned from the village.’

When comparing (iii) with the acceptable sentence (iv), it is obvious that the argument vs. adjunct status plays a role here; while *huílái* ‘return’ in (iii) c-selects a source PP, *qù* ‘go’ does not; instead it c-selects a goal PP (here *wàng nán* ‘towards the south’):

- (iv) $\text{Yóujú, } \{cóng \text{ zhèr}\} [_{TP} \text{nǐ } \{cóng \text{ zhèr}\} \text{ wàng nán zǒu}]$
 post.office from here 2SG from here toward south go
 ‘The post office, from here, you go south.’

In brief, it is not clear to what extent Ernst’s (1989) observation holds that argument PPs cannot be extracted.

²⁴ For example, in the sentence illustrating a topic carrying new information given by Krifka (2007: 31, [40]), the constituent presented as topic in fact turns out to be the subject of the sentence:

- (i) $[A \text{ good friend of mine}]_{Topic} [married \text{ Britney Spears last year}]_{comment}$

- (73) $[_{TopP} [_{DP} Lǐ \text{ xiānshēng}]_i [_{Top} [_{Top^\circ} ne] [_{TP} t_i \text{ rènshi } wǒ]]]]$
 Li Mr. PART know 1SG
 ‘Mr. Li, he knows me.’ (Gasde & Paul 1996: 268, [7])

- (74) $Zhāngsān_i [_{TP} tā_i \text{ yǐjīng } zǒu \text{ -le}]]$ (Huang, Li and Li (2009: 204, [28a])
 Zhangsan 3SG already leave-PERF
 ‘Zhangsan, he has already left.’

In examples (71) – (73), given the semantic relationship between the XP in topic position and the predicate in the lower TP, the XP originates from the subject position in that lower TP and has raised to TopP. Furthermore, the presence of the particle *ne* realizing the head of TopP in (73) is a clear indication that the extracted subject occurs in the topic position. (74) finally involves a base-generated topic which is coreferential with the pronoun *tā* ‘s/he’ in subject position.

To keep the topic and the subject apart *qua* positions is necessary in order to account for a set of phenomena.

First, Chinese being a *wh* in-situ language, the interrogative pronoun *shéi* ‘who’ is only acceptable in subject position, not in topic position, as evidenced by its incompatibility with *ne*.²⁵

- (75) a. $[_{TP} Shéi \text{ rènshi } zhèi \text{ ge } rén]?$
 who know this CL person
 ‘Who knows this person?’
 b. $*[_{TopP} [_{TopP} Shéi_i \text{ ne } [_{TP} t_i \text{ rènshi } zhèi \text{ ge } rén]]]?$
 who TOP know this CL person

(75b) is thus on a par with (76b) where *shéi* ‘who’ questioning the object occurs in the topic position to the left of the subject *tā* ‘s/he’, resulting in the unacceptability of the sentence:

- (76) a. $[_{TP} Tā \text{ rènshi } shéi]?$
 3SG know who
 ‘Who does she know?’
 b. $*[_{TopP} Shei_i [_{TP} tā \text{ rènshi } t_i]]$
 who 3SG know

Second, topic and subject behave differently with respect to relativization; more precisely, only subjects, but not topics can be relativized (cf. Huang, Li and Li 2009: 212–213):

- (77) a. $Yīwài \text{ fāshēng-le}$ (Huang, Li and Li (2009: 212, [54], [55])
 accident happen -PERF
 ‘An accident happened.’
 b. $Zuótiān \text{ fāshēng-le } yīwài$
 yesterday happen -PERF accident
 ‘An accident happened yesterday.’

²⁵ This contrasts with D-linked subject *wh*-phrases, which for some speakers are compatible with *ne* when in the topic position (cf. Victor Junnan Pan [2011a] for further discussion)

(i) $[_{TopP} [_{DP} Nǎ \text{ ge } xuéshēng] [_{Top} [_{Top^\circ} ne] [_{TP} hái \text{ méi } jiāo \text{ xuéfēi}]]]$
 which CL student TOP° still NEG deliver inscription.fee
 ‘Which (of the) student(s) hasn’t paid the inscription fees?’

Recall from section 6.1.1 above that only D-linked *wh*-phrases of the type ‘*nǎ* classifier NP’, i.e. ‘which (of the) NP’ or ‘*shénme* N’, i.e. ‘what N’ are allowed in topic position, in contrast to plain *wh*-phrases such as *shéi* ‘who’, *shénme* ‘what’ etc.

- c. *Nèixiē rén fāshēng-le yīwài*
 those person happen -PERF accident
 ‘Those people had an accident.’

As pointed out by Huang, Li and Li (2009: 212), *fāshēng* ‘happen’ can be either used as an unaccusative verb and then selects a theme argument (cf. [77a]), or as a transitive verb with an additional experiencer argument (i.e. *nèixiē rén* ‘those people’ in [77b]). Note that the experiencer can also occur in topic position:

- (78) $[_{TopP} \text{ nèixiē rén } [_{TP} \text{ yīwài fāshēng-le}]]$ (Huang, Li and Li 2009: 213, [57])
 those person accident happen-PERF
 ‘Those people, an accident happened.’

If one now tries to relativize *nèixiē rén* ‘those persons’, it emerges that only *nèixiē rén* ‘those persons’ in subject position can be relativized (cf. [79]), in contrast to *nèixiē rén* ‘those persons’ in TopP (cf. [80]):

- (79) $[_{DP} [_{TP} \text{ e}_i \text{ fāshēng-le yīwài }] \text{ de } \text{ nèixiē rén}]$ (Huang, Li and Li 2009: 213, [58], [59])
 happen-PERF accident SUB those person
 ‘those people who had an accident’
- (80) $*[_{DP} [_{TP} \text{ yīwài fāshēng-le}]] \text{ de } \text{ nèixiē rén}]$
 accident happen-PERF SUB those person
 (‘the people such that an accident happened’)

The third piece of evidence in favour of a clear-cut distinction between subject position and topic position involves PPs. As discussed in chapter 4.3.2 above, PPs are banned from the subject position, in contrast to PostPs (cf. [81] and [82]), while both are acceptable in the topic position (cf. [83] and [84]):

- (81) $[_{TP} \{ [_{PostP} \text{ wūzi lǐ}] / *[_{PreP} \text{ zài wūzi lǐ}] \} \text{ hěn gānjìng}]$
 room in / at room in very clean
 ‘It is very clean in the room.’
- (82) $[_{TP} \{ [_{PostP} \text{ Lúzi qián }] / *[_{PreP} \text{ zài lúzi qián }] \} \text{ hěn nuǎnhuo}]$
 stove in.front.of / at stove in.front.of very warm
 ‘It is very warm in front of the stove.’
- (83) $[_{CP} [_{TopP} [_{PostP} \text{ Jǐ ge yuè yǐqián}] [_{TP} \text{ tā jiù qù Shànghǎi}]] \text{ le}]$
 several CL month before 3SG then go Shanghai PART
 ‘Several months ago, he went to Shanghai.’
- (84) $[_{CP} [_{TopP} [_{PP} \text{ Zài túshūguǎn}] [_{TP} \text{ wǒ kěyǐ fùyìn}]] \text{ ma}]?$ (= [48] above)
 in library 1SG can xerox PART
 ‘Can I make photocopies in the library?’

To summarize, topic and subject qua positions are clearly distinct and should therefore not be conflated via notations such as subject/topic etc. (also cf. Bartos 2003). The fact that this notation is widespread, especially in semantico-pragmatic approaches (where “topical” is often used as synonym of “given information”) highlights the necessity of making precise in what sense, syntactic or semantic/pragmatic, the term *topic* is used, i.e. referring to a syntactic position left of the subject or rather to the general theme of discourse. Otherwise, studies allegedly examining the same issue will provide different, if not contradictory conclusions, as is in fact the case at present. Given that an XP in the topic position does not exclusively convey given information, the possibility of misunderstandings

and confusion created by a syntactic vs. a semantico-pragmatic definition of the term topic increases even more.

6.4. The sentence-internal topic and the cartographic approach to the sentence periphery²⁶

At first sight, to postulate a topic position to the right of the subject, i.e. *within* the sentence (cf. [85a] and [85b]), seems contradictory with the positional definition applied so far which situates the topic in TopP to the left of the subject.

- (85) a. *Tā [bái mǐ diéyǒng] yóu -le ge dìyī*
 3SG 100 meter butterfly.stroke swim-PERF CL first
 ‘He won the first place in the butterfly style.’ (Tan Jingchun 1997: 96)

- b. *Tā [huǒchē] méi gǎnshàng*
 3SG train NEG catch
 ‘He didn’t catch the train.’ (slightly changed example from Fan Jiyan 1984: 29)

It makes, however, sense within the so-called *cartographic approach* to the sentence periphery initiated by Rizzi (1997) and further developed by, among others, Belletti (2004), Benincà and Poletto (2004), Rizzi (2004a).²⁷ In this approach, the left periphery is “split up”, i.e. divided into numerous subprojections, among them topic and focus projections, each of which is associated with a specific interpretation. The *split CP* thus obtained contrasts with the former assumption of a single CP projection above the sentence, TP. Importantly, as first shown by Belletti (2004), the hierarchy of projections constituting the left periphery above the subject can also be found in the periphery below the subject. This is confirmed by Chinese; the hierarchy observed in the left periphery where the topic projection is always higher than, i.e. precedes the ‘even’ focus projection (cf. [86]) also holds for the sentence-internal periphery above the vP (cf. [87]), i.e. above negation and auxiliaries (cf. Paul 2002, 2005b).²⁸ Note in this context that in Chinese only the *lián* ‘even’ focus is allowed in the left periphery, focus clefts being confined to TP (cf. Paul and Whitman [2008] and references therein):

- (86) a. *[TopP Qīmò kǎoshì [FocP lián liùshí fēn [TP tā dōu méi ná dào]]]*
 term.end exam even 60 point 3SG all NEG obtain
 ‘In the final exam, he didn’t even obtain sixty points.’
 (slightly changed example from Lu Peng 2003: 223)

- b. **[FocP lián liùshí fēn [TopP qīmò kǎoshì [TP tā dōu méi ná dào]]]*
 even 60 point term.end exam 3SG all NEG obtain

- (87) a. *[TP Tā [int.TopP qīmò kǎoshì [FocP lián liùshí fēn dōu [vP méi ná dào]]]]]*
 3SG term.end exam even 60 point all NEG obtain
 ‘He didn’t even obtain 60 points in the final exam.’

- b. **[TP Tā [FocP lián liùshí fēn [int.TopP qīmò kǎoshì [vP dōu méi ná dào]]]]]*
 3SG even 60 point term.end exam all NEG obtain
 (slightly changed example from Lu Peng 2003: 223)

²⁶ This section is based on Paul (2002, 2005b).

²⁷ For a good introduction into the basic tenets of the cartographic approach, cf. Cinque and Rizzi (2008).

²⁸ Note, though, that in Chinese the sentence-internal periphery is located *above* the vP, i.e. above negation and auxiliaries, whereas the sentence-internal periphery observed for Italian is vP-internal, i.e. *below* negation.

Both (86b) and (87b) are unacceptable, because the only possible order ‘TopP > *even* focus’ (cf. [86a]), [87a]) is not respected, irrespective of whether this involves the TP-external or the TP-internal left periphery.²⁹

A syntactic definition of the sentence-internal topic can thus be maintained: it occupies a position below the subject and above the verbal projection (including negation and auxiliaries, cf. [85b]) and is always higher than the *lián* ‘even’ focus.

6.4.1. Sentence-internal topic vs. sentence-internal focus

In contrast to the still widespread assumption in the literature, the sentence-internal topic is *not* a focus (*contra* Ernst & Wang 1995; Shyu 1995, 2001; Tsai Wei-tian 1994, 2000; Zhang 1997, Huang, Li and Li 2009: 201, among others) nor obligatorily interpreted contrastively (*contra* Tsai Wei-tian 1994, Huang, Li and Li 2009: 202, a.o.).³⁰

The misanalysis as focus is probably based on a confusion with the ‘even’ focus, given the well-known fact that *lián* preceding the focused item is optional, while the presence of the adverb *dōu* ‘all’ or *yě* ‘also’ is obligatory:³¹

- (88) $[_{TP} \text{ Tā } (lián) \text{ liùshí fēn } *(dōu/yě) [_{VP} \text{ méi } ná dào]]$
 3SG even 60 point all/ also NEG obtain
 ‘He didn’t even obtain sixty points.’

However, this confusion can be easily avoided. First, as already mentioned, the adverb *dōu* ‘all’ or *yě* ‘also’ is obligatory for the *lián* ‘even’ focus. Second, as we have just seen, the internal topic can *co-occur* with a *lián* ‘even’ focus (cf. [87a]), a fact completely overseen by the proponents of the focus analysis; since only one focus per proposition is allowed, the internal topic can simply not be another focus. Third, the interpretation of internal topics is clearly not one of focus; on the contrary, the topic here sets the frame for the main predication, as illustrated in (87a) above and the examples below:

- (89) $Nǐ \text{ zhōngyào } yǐqián \text{ yòng-guò } ma ?$
 2SG Chinese.medicine before use -EXP PART
 ‘Have you ever taken Chinese medicine before?’

²⁹ The hierarchy ‘TopP > ‘even’ FocP’ also holds in the case of multiple topics, i.e. the multiple topics must be adjacent to each other, and the ‘even’ FocP can only occur below the last topic:

- (i) $[_{TopP} \text{ Qīmò } kǎoshì [_{TopP} \text{ yīngyǔ } [_{FocP} \text{ lián liùshí fēn } [_{TP} \text{ tā dōu méi ná dào}]]]]$
 term.end exam English even 60 point 3SG all NEG obtain
 ‘In the final exam, for English, he didn’t even obtain sixty points.’

(slightly changed example from Lu Peng 2003: 223)

- (ii) $*[_{TopP} \text{ Qīmò } kǎoshì [_{FocP} \text{ lián liùshí-fēn } [_{TopP} \text{ yīngyǔ } [_{TP} \text{ tā dōu méi ná dào}]]]]$
 term.end exam even 60 -point English 3SG all NEG obtain

Chinese is thus different from Italian where according to Rizzi (1997, 2004), an additional topic projection is available below the focus projection. Interestingly, Benincà & Poletto (2004) contest this point and argue that what has been identified as topic by Rizzi (1997, 2004) turns out to be a focus-related projection as well. As a result, topic related projections and focus related projections are not interspersed as in Rizzi’s proposal, but form two distinct blocks whose relative order is rigid: Topic field > Focus field. This makes more sense for Chinese, but interestingly also for German. Grohmann (2006) argues that only a topicalizable XP may appear between two *wh* phrases, because the latter – being in a certain sense D-linked – occupy Spec, TopP themselves. In other words, in German as well, the topic-related projections need to be contiguous and must not be disrupted by an “extraneous” projection such as FocP. Haegeman (2012, chapter 1) likewise observes a ban on “lower” topics in English, i.e. on topic projections dominated by the focus projection.

³⁰ Qu Yanfeng (1995: 169) is an exception confirming the rule analysing what he calls the *shifted object* as topic, not as focus. Note, though, that he does not address the differences between this sentence-internal topic and the sentence-external topic.

³¹ There still exists no satisfying analysis of the *lián...yě/dōu* ‘even’ focus construction, in particular the categorial status of *lián* ‘even’ is controversial. For different attempts, cf. a.o. Paris (1979, 1994), Shyu Shu-ing (1995, 2001), Paul (2005b), Badan (2007), Badan and Del Gobbo (2010).

- (90) *Nǐ de xuéshēng gǒuròu gǎn bù gǎn chī?*
 2SG SUB student dog.meat dare NEG dare eat
 ‘Do your students dare to eat dog meat?’
- (91) *Wǒ yīfu xǐ -le , dì tuō -le , wǎn shuā-le ,*
 1SG clothing wash-PERF floor wipe-PERF bowl scrub-PERF
chuáng yě zhěnglǐ -le (Zhu and Xiao 1999: 113)
 bed also put.in.order-PERF
 ‘I did the laundry, wiped the floor, washed the bowls and also made the bed.’

The list reading obtained for the topics in (91) is the exact opposite of the semantics associated with focus, i.e. the singling out of a particular item. Likewise, in the yes/no questions (89) and (90), no focus on a given constituent can be discerned. These examples also invalidate the allegedly obligatory contrastive reading for internal topics postulated by Tsai Wei-tian (1994: 138).³²

The possibility of either merging the internal topic *in situ* (cf. [85a] and [87a] above) or deriving it by movement from the postverbal object position (cf. [85b], [89] – [91]) provides another argument in favour of its topic status, these two derivation possibilities likewise existing for the TP-external topic.³³ As demonstrated below, unlike a moved TP-internal topic, a TP-internal *in situ* topic cannot occupy a position elsewhere in the sentence, *viz.* the postverbal position:

- (92) *Tā [bái mǐ diéyǒng] yóu -le ge dìyī (*[bái mǐ diéyǒng])* (cf. [85] above)
 3SG 100 meter butterfly swim-PERF CL first 100 meter butterfly
 ‘He won the first place in the butterfly style.’
- (93) *Tā [nèi jiàn shì] hái méi zuò juéding (*[nèi jiàn shì])* *ne*
 3SG that CL matter yet NEG make decision that CL matter PART
 ‘He has not yet come to a decision concerning that matter.’ (Fu Jingqi 1994: (29))

The internal topic in (92) and (93) must be base-generated, because there is no lower position within TP it could have moved from.

Last, but not least, like the external TopP (cf. the discussion of examples [4] and [5] above), the internal TopP can also host a D-linked *wh*-phrase:

- (94) a. *[_{TP} Nǐ [nǎ jiàn yīfu] yǐjīng shì-guo] le?*
 2SG which CL dress already try-EXP PART
 ‘Which (of the) dress(es) have you already tried on?’
- b. *Tā [nǎ jiàn shì] hái méi zuò juéding ne*
 3SG which CL matter yet NEG make decision PART
 ‘Concerning which matter has he not yet come to a decision?’

Not that this D-linked *wh*-phrase can question either an *in-situ* internal topic (cf. [94b]) or a moved internal topic (cf. [94a]).

6.4.2. Sentence-internal topic vs. sentence-external topic

While so far I have concentrated on the properties shared by the external and the internal topic, i.e. their position above the *lián* ‘even’ FocP, the availability of both movement and base-generation and the possibility of hosting D-linked *wh*-phrases, there also exist differences.

³² Naturally, this does not exclude a contrastive interpretation for internal topics in parallel constructions, given that this possibility exists for any constituent in any position (cf. the discussion in section 6.1.3 above):

(i) *Wǒ Shàngháiyě dào-guo, Tiānjīn yě dào-guo* (Wu Weizhang 1995:531)
 1SG Shanghai also go-EXP Tianjin also go-EXP
 ‘I have also been to Shanghai, and to Tianjin, too.’

³³ In the Chinese linguistics literature a moved internal topic as in (89) – (91) is referred to as *preposed object*.

First, the internal topic does not indicate an ‘aboutness’ relation, but sets the frame within which the main predication holds. This is particularly neat in the cases of *in situ* internal topics just cited.

Second, no multiple topics are allowed within TP (cf. [94b]), whereas they are very common in the TP-external periphery (cf. [94a]):

- (95) a. $[_{TopP} Q\bar{i}m\grave{o} \quad k\check{a}osh\grave{i} \quad [_{TopP} y\bar{i}ngy\check{u} \quad [_{TP} t\bar{a} \quad k\check{a}o \quad -le \quad ge \quad b\bar{a}sh\acute{i} \quad f\bar{e}n]]]$
term.end exam English 3SG pass.exam-PERF CL 80 point
‘In the final exam, for English, he obtained eighty points.’
(slightly changed example from Lu Peng 2003: 223)
- b. $*[_{TP} T\bar{a} \quad [_{int.TopP} q\bar{i}m\grave{o} \quad k\check{a}osh\grave{i} \quad [_{int.TopP} y\bar{i}ngy\check{u} \quad [_{vP} k\check{a}o \quad -le \quad ge \quad b\bar{a}sh\acute{i} \quad f\bar{e}n]]]]]$
3SG term.end exam English pass.exam-PERF CL 80 point
- c. $[_{TopP} Q\bar{i}m\grave{o} \quad k\check{a}osh\grave{i} \quad [_{TP} t\bar{a} \quad [_{TopP} y\bar{i}ngy\check{u} \quad [_{vP} k\check{a}o \quad -le \quad ge \quad b\bar{a}sh\acute{i} \quad f\bar{e}n]]]]]$
term.end exam 3SG English pass.exam-PERF CL 80 point
‘In the final exam, he obtained eighty points for English.’

Note in passing that the external and the internal topic can co-occur in the same sentence (cf. 95c).

Third, clauses, e.g. complement clauses are banned from the internal topic position cf. ([96b]), while they are perfectly acceptable in the external topic position (cf. [97]):

- (96) a. $T\bar{a} \quad w\grave{a}ng-le \quad [w\check{o}men \quad j\check{i} \quad di\check{a}nzh\bar{o}ng \quad k\bar{a}i \quad hu\grave{i} \quad]$
3SG forget-PERF 1PL how.many o’clock hold meeting
‘He forget at what time we hold our meeting.’
- b. $*[_{TP} T\bar{a} \quad [w\check{o}men \quad j\check{i} \quad di\check{a}nzh\bar{o}ng \quad k\bar{a}i \quad hu\grave{i} \quad] \quad w\grave{a}ng-le \quad]$
3SG 1PL how.many o’clock hold meeting forget-PERF
- (97) $[_{TopP} [W\check{o}menj\check{i} \quad di\check{a}nzh\bar{o}ng \quad k\bar{a}i \quad hu\grave{i} \quad] \quad [_{TP} t\bar{a} \quad w\grave{a}ng-le \quad]]$
1PL how.many o’clock hold meeting 3SG forget-PERF
- $[_{TopP} [w\check{o}men \quad j\check{i} \quad di\check{a}nzh\bar{o}ng \quad ch\bar{i} \quad f\grave{a}n \quad] \quad t\bar{a} \quad m\acute{e}i \quad w\grave{a}ng \quad]]$
1PL how.many o’clock eat meal 3SG NEG forget

‘What time we hold our meeting, he forgot, but at what time we eat, he didn’t forget.’

These differences between the external and the internal topic cannot be described along the lines of a contrast “discourse topic” (i.e. external topic) vs. “focus topic” (i.e. internal topic) (cf. Tsai Wei-tian 1994: 138–141), nor in terms of an obligatory contrastive or focus interpretation for the internal topic, as claimed by Huang, Li and Li (2009: 201).

6.4.3 SOV: Sentence-internal topic vs. double topicalization

The attentive reader might have noticed that the majority of examples illustrating the internal topic have a pronominal subject, which allows us to indeed locate the internal topic within TP, given the very marginal acceptability of personal pronouns as (external) topics discussed in section 6.1.1 above. This is important because some proposals analyse every sequence SOV as a double topicalization where both the subject and the object have been extracted: $[_{TopP} S_i \quad [_{TopP} O_j \quad [_{TP} t_i \quad [_{vP} V \quad t_j \quad]]]]$, thus resulting in the superficially identical sequence SOV (cf. a.o. Lin Jo-wang 1992, Bartos 2003). While evidently cases of double topicalization exist (cf. [98]), these must nevertheless be distinguished from sentences with an internal topic:³⁴

³⁴ Both Tsai Wei-tien (1994: 138) and Ernst and Wang (1995) likewise argue against the analysis of object preposing sentences as double topicalisation structures. However, their arguments are based on the wrong assumption that object preposing is focalisation and they do not use the diagnostic of questioning with the aid of *shéi* ‘who’ the subject in a sentence containing an internal topic.

- (98) $[_{TopP} [_{DP} \text{Xiǎo Lǐ}]_i [_{TopP} [_{DP} \text{zhè zhǒng péngyou}]_j [_{TP} t_i t_j \text{yīnggāi duō jiāo yīxiē}]]]$
 Xiao Li thiskind friend should much link somewhat
 ‘Xiao Li should more often make this kind of friends’
 (slightly changed example from C.-C. Jane Tang 1990: 168)

First of all, a double topicalization analysis cannot apply to those cases where the internal topic cannot be derived by movement, but must be generated *in situ* (cf. [92] and [93] above).

Second, there exists a test to distinguish the SOV sequence involving an internal topic from the SOV sequence resulting from a double topicalization. Recall from section 6.3 above that a plain *wh* phrase such as *shéi* ‘who’ is banned from a TP-external position (in contrast to a D-linked *wh*-phrase). The acceptability of *shéi* in the sequence ‘SOV’ can therefore serve as a diagnostic to show that everything to its right must likewise be TP-internal:

- (99) a. $[_{TP} \text{Shéi} [_{int.TopP} [\text{zhè zhǒng zhōngyào}] \text{ yǐjīng yòng-guo}]]le?$
 who thiskind Chinese.medicine already use -EXP PART
 ‘Who has already used this kind of Chinese medicine before?’
 b. $[_{TP} \text{Shéi} [\text{bái mǐ diéyǒng}] \text{ yóu -le ge dìyī}]?$
 who 100 meter butterfly swim-PERF CL first
 ‘Who won the first place in the butterfly style?’

The SOV sentences with the object being hosted in the internal TopP thus contrast with cases of double topicalization, where the extracted subject in the first TopP cannot be questioned by *shéi* ‘who’:

- (100) $*[_{TopP} [_{DP} \text{Shéi}]_i [_{TopP} [_{DP} \text{zhèxiē xuéshēng}]_j [_{TP} t_i \text{qǐnglái-le} t_j]]$
 who these student invite -PERF
 (Intended: ‘Who had invited these students?’)

Whether SOV sequences with a [+human] object DP are automatically analysed as instances of double topicalization, as claimed by Hou (1979) who posits the [–human] feature as condition for the internal (moved) topic, is still controversial. According to Thomas Lee (p.c.), a [+human] internal topic is perfectly acceptable when contrastively interpreted, thus challenging Hou’s (1979) constraint.³⁵

- (101) $[_{TP} \text{Lǐ lǎoshī} [_{int.TopP} [\text{zhè ge xuéshēng}] \text{ fá -le}]]$
 Li teacher this CL student punish-PERF
 $[_{TP} \text{pro} [_{int.TopP} [\text{nèi ge xuéshēng}] \text{ hái méi fá}]]$
 that CL student still NEG punish
 ‘Teacher Li has punished this student, but he has not yet punished that student.’

Note, though, that sentences of the type illustrated in (101) are rejected by other native speakers; in addition, the *wh*-question on the subject (cf. [102]) is judged from marginal to downright unacceptable. In other words, it is not clear whether *Lǐ lǎoshī* in (101) indeed occupies the subject position Spec,TP as indicated by the bracketing; accordingly, it is not clear, either, whether *zhè ge xuéshēng* really involves an internal topic:

³⁵ By contrast, Hou’s constraint against personal pronouns in the TP-internal topic position holds:

- (i) $*[_{TP} \text{Wǒ de péngyou} [_{int.TopP} \text{tā} [_{vP} \text{rènshì}]]]$
 1SG SUB friend 3SG know (Intended meaning: ‘My friends know him.’)

When analysed as $[_{TopP} [\text{Wǒ de péngyou}] [_{TP} \text{tā rènshì}]]$ ‘My friends, he knows (them)’, i.e. with *wǒ de péngyou* ‘my friends’ as topic and *tā* ‘he’ as subject, (i) is, however, acceptable. In other words, when it is possible to interpret the second DP in a sequence ‘DP DP VP’ as the subject of the sentence which is automatically the case for a personal pronoun and the preferred case for a [+human] DP, the parsing ‘Topic_i, Subject V t_i’ is chosen. This observation was made by C.-T. James Huang in his MA thesis (Huang, p.c.; also cf. Li Linding 1986, Xu Shu 1988), but so far no explanation in more formal terms has been proposed.

- (102) ??*Shéi [zhèi ge xuéshēng] fá -le , [nèi ge] hái méi fá]]*
 who this CL student punish-PERF that CL still NEG punish?
 (Intended: ‘Who has punished this student and has not yet punished that one?’)

Furthermore, proper names [of persons] as internal topics – equally excluded by Hou (1979) – improve in contrastive contexts:³⁶

- (103) *Wǒ [Lǐ lǎoshī] méi jiàndào, [Wáng lǎoshī] dǎoshì jiàndào-le*
 1SG Li teacher NEG see Wang teacher actually see -PERF
 ‘I have not seen teacher Li, (but) teacher Wang, I actually have seen.’

Last, but not least, the presence of *ne* following the first or the second XP straightforwardly indicates that it occupies a TP-external TopP; in this case, a SOV sequence must be analysed as a case of double topicalization, irrespective of the [\pm human] feature of the object DP:

- (104) *[TopP [Lǐ lǎoshī]_i [TopP [zhōngyào]_j ne [TP t_i yǐjīng chī-guò t_j]]] le*
 Li teacher Chinese.medicine TOP already eat-EXP PART
 ‘Teacher Li, Chinese medicine, he has already tried.’

Clearly, the structure with a TP-internal topic is subject to different constraints than the superficially identical SOV structure resulting from the topicalization of both the subject and the object; accordingly, the two must be kept apart.

6.4.4. Interim summary

The preceding sections have provided ample evidence in favour of a sentence-internal topic projection, in addition to the sentence-external topic projection(s) left of the subject. The possible co-occurrence of the sentence-internal topic with the *lián* ‘even’ focus is one of several arguments against its still widespread analysis as focus (cf. Ernst and Wang 1995, Tsai Wei-tian 1994, Shyu 1995, Huang, Li and Li 2009, among others). Importantly, the strict ordering hierarchy: TopP > *lián* ‘even’ FocP observed below the subject reflects the one valid in the periphery above the subject; in this respect, Chinese is on a par with other languages whose peripheries above and below the subject display the same hierarchies (cf. Belletti 2004 a.o.). Like the external topic, the internal topic can be derived in two ways, *in situ* or by movement. However, unlike the external topic, the internal topic does not convey an aboutness relation, but rather sets the frame for the main predication. The internal TopP does not allow for multiple topics nor for clauses, either. Last, but not least, the acceptability of [+human] DPs in the internal TopP is subject to several constraints, which are not yet fully understood.

6.5. Conclusion

This chapter has demonstrated that the topic, i.e. the constituent in the topic position to the left of the subject, can convey both old *and* new information, a result tying in with similar observations for Italian (cf. Bianchi and Frascarelli 2010). Furthermore, the topic has two functions: it indicates an ‘aboutness’ relation or sets the frame for the main predication; this frame-setting function is particularly visible in – though not restricted to – the case of non-referential topics such as QPs, adjunct phrases and conditional clauses. Following the general consensus in the literature, two types of derivation are postulated for topics, *viz.* movement and generation *in situ*. The latter is the only possibility for adjuncts, phrasal (NPs, AdPs, clauses) and non-phrasal (i.e. sentence-level adverbs), a fact often neglected in the literature.

³⁶ By contrast, a sequence of two proper names plus verb can only be parsed as ‘Topic_i, Subject V t_i’, and an analysis of the second DP as inner topic is completely excluded here:

- (i) *[TopP Lǐsì [TP Zhāngsān mà-le]]* (Wang Jing 1996: 99, [6])
 Lisi Zhangsan scold-PERF
 ‘Lisi, Zhangsan scolded him.’ [Not: ‘Lisi scolded Zhangsan.’]

In addition to the sentence-external topic position, Chinese also has a sentence-*internal* topic position to the right of the subject, which in the literature has long been misanalyzed as focus. Both the sentence-external and sentence-internal TopP must always precede the *lián* ‘even’ focus projection, as predicted by the cartographic approach to the sentence periphery initiated by Rizzi (1997) and observed for other languages as well.

Notwithstanding this point of convergence, the cartographic approach does not seem suitable as a general framework to capture the overall ordering relations observed in the sentence periphery in Chinese. Recall from the discussion in section 6.4 above that one immediate point of divergence with Rizzi’s (1997, 2004a) hierarchy of projections based on Italian was the non-existence of another TopP below FocP in Chinese, both in the periphery above and below the subject. Instead, a contiguous domain consisting of one or several topics has to be posited, where topics obligatorily precede the *lián* ‘even’ FocP and are barred from a position below that FocP.

Even if one leaves this point aside and concentrates on the relative ordering among multiple topics in the topic domain itself, it is clear that the central claim of the cartographic approach is not borne out by the Chinese data, *viz.* the division of the sentence periphery into a rigid hierarchy of subprojections, each of which is associated with a precise semantics. For example, in (105), the temporal adjunct *zhè jǐ nián* ‘these last few years’, can precede or follow the (moved) topic DP *pīpàn huì* ‘criticism meeting’.

- (105) a. *Zhè jǐ nián, pīpàn huì, lǎohàn jiàn-duō le* (Lü Shuxiang 1986: 334)
 this several year criticism.meeting old.man see -much PART
 ‘These last few years, criticism meetings, the old man has seen too many.’
- b. *Pīpàn huì, zhè jǐ nián, lǎohàn jiàn-duō le* (Lü Shuxiang 1986: 334)
 criticism.meeting this several year old.man see -much PART
 ‘Criticism meetings, these last few years, the old man has seen too many.’

This contrasts with the situation in Italian where only one order is possible:

- (106) a. *Mario, nel 1999, gli hanno dato il premio Nobel*
 Mario in-the 1999 to-him have given the prize Nobel
 ‘Mario, in 1999, they gave him the Nobel prize.’
- b. ??*Nel 1999, Mario, gli hanno dato il premio Nobel*
 in-the 1999 Mario to-him have given the prize Nobel
 (Benincà and Poletto 2004: 67; [46a-b])

Benincà and Poletto (2004: 67) interpret the contrast between (106a) and (106b) as evidence for the existence of two different subprojections, “hanging topic” (*Mario*) and “scene setting topic” (*nel 1999*), which can only co-occur in that order. Other subprojections postulated in the topic domain are subprojections for list interpretation, for the aboutness topic etc. (cf. Benincà & Poletto 2004 for Romance languages; Badan 2007, Del Gobbo & Badan 2010 for Chinese)

Applied to the Chinese facts presented in (105), this would require two different scene-setting related topic projections, one above and one below the left dislocated topic *pīpàn huì* ‘criticism meeting’, each of which should be associated with different semantics, in accordance with the 1:1 relationship between projection and interpretation posited in the cartographic approach. Besides the problem of how to pinpoint these semantic differences, the picture in Chinese is further complicated by the possibility of adding a third topic and thus increasing the permutation possibilities:

- (107) a. *Zhè jǐ nián, pīpàn huì, lǎohàn_i [TP tā_i jiàn-duō le]*
 this several year criticism.meeting old.man 3SG see -much PART
 ‘These last few years, criticism meetings, the old man, he has seen too many.’
- b. *Pīpàn huì, zhè jǐ nián, lǎohàn_i [TP tā_i jiàn-duō le]*
 criticism.meeting this several year old.man 3SG see -much PART

‘Criticism meetings, these last few years, the old man, he has seen too many.’

- c. *Lǎohàn_i, pīpànhuì, , zhè jǐ nián, [TP tā_i jiàn-duō le]*
 old.man criticism.meeting this several year 3SG see -much PART
 ‘The old man, criticism meetings, these last few years, he has seen too many.’
- d. *Lǎohàn_i, zhè jǐ nián, pīpànhuì, [TP tā_i jiàn-duō le]*
 old.man this several year criticism.meeting 3SG see -much PART
 ‘The old man, these last few years, criticism meetings, he has seen too many.’

These different orderings are not expected under the cartographic approach; on the contrary, *lǎohàn* ‘old man’ as a hanging topic should always precede the frame-setting topic *zhè jǐ nián* ‘these last few years’ (cf. Benincà and Poletto 2004) and the left-dislocated topic *pīpànhuì* ‘criticism meeting’ (cf. Badan and Del Gobbo 2010); in other words, only (107c) should be acceptable. It seems difficult, if not impossible to capture the different orders displayed by Chinese within a cartographic approach where each subprojection has a fixed position within the hierarchy and an associated interpretation. It is thus excluded to postulate e.g. another scene setting topic below the hanging DP topic, and the only way out to account for Chinese would be a multiplication of semantically nearly identical projections at different points in the hierarchy.

Instead, I propose to capture the differences between the possible orderings by the general scope principle at work in Chinese, where the left item c-commands, i.e. has scope over, the item(s) to the right (cf. C.-T. James Huang 1982, 1983). The subtle meaning differences associated with the different orderings in (105) and (107) then correspond to scope differences between the XPs involved.

In general, the interpretation of a topic cannot be provided by assigning a particular semantic function to the relevant subprojection itself, but rather results from the interaction of several factors such as the syntactic and semantic properties of the topic XP (including the [\pm argumental] status), the properties of the predicate inside TP as well as the default values associated with the topic position itself i.e., the frame or aboutness function and the impossibility of a focus interpretation. Adjuncts, for example, may only function as frame-setting topic, not as an aboutness topic, irrespective of their relative position within the topic domain (cf. [107] above).

The interpretation of bare nouns in topic position is another example to illustrate this interaction of several factors. As noted by Y.-H. Audrey Li (1997: 18), a bare noun – be it a mass or a count noun – can be interpreted as definite, indefinite or generic in Mandarin Chinese. With an individual-level predicate such as *xihuan* ‘like’ in the TP (cf. [108a]), a bare noun topic is understood as generic, whereas in combination with a stage-level predicate such as *wèi* ‘feed’ or *guānhǎo* ‘close’ it is interpreted as definite. Note that for [108b], a particular context such as house sitting is necessary:

- (108) a. *Māo, wǒ tèbié xǐhuān, gǒu, wǒ bù xǐhuān*
 cat 1SG especially like dog 1SG NEG like
 ‘Cats, I like very much, dogs, I don’t like.’
- b. *Māo, wǒ gāng wèi -guo le , huā , wǒ yě jiāo-le shuǐ*
 cat 1SG just feed-EXP PART flower 1SG also pour-PERF water
 ‘The cat, I just fed it, the flowers, I watered them, too.’
- (109) *Chuānghu, wǒ gāng guānhǎo-le , bié dānxīn*
 window 1SG just close -PERF NEG worry
 ‘The windows, I closed them, don’t worry.’

Bare nouns can also be used to demonstrate that the lack of a 1:1 relationship between position and interpretation is in fact a general property of Chinese grammar and does not only hold for the topic position. For a bare noun in postverbal position, the definite interpretation is not only possible, but may – depending on the context – even be preferred to the indefinite interpretation, thus challenging Li and Thompson’s (1976) claim (still influential today) that a bare NP in postverbal position is generally interpreted as indefinite (cf. [112]):

- (110) *Rúguǒ nǐ bù qǐng tóngshì , tāmen jiù huì hěn shēng qì*
 if 2SG NEG invite colleague 3PL then will very produce air
 ‘If you don’t invite the[=your] colleagues, they will be very angry.’
- (111) *Nǐ zhǎodào-le túshūguǎn méi yǒu?*
 2SG find -PERF library NEG have
 ‘Did you find the library?’
- (112) *Tā mǎi-le huā le*
 3SG buy-PERF flower PART
 ‘She bought flowers.’

Last, but not least, as we have seen, there is no fixed position for XPs carrying new information, either (*contra* LaPolla 1995, Xu Liejiong 2004).

As a result, the lack of a fixed interpretational value for the topic in Chinese ties in with the overall grammar of Chinese where no simple correlation exists between a given syntactic position and the semantics obtained for an XP in this position.

References

- Badan, Linda (2007). High and low periphery: A comparison between Italian and Chinese. Ph.D. diss., Dipartimento di Discipline Linguistiche, Comunicative e dello Spettacolo, Università degli Studi di Padova [University of Padua].
- Badan, Linda and Francesca Del Gobbo (2010). On the syntax of topic and focus in Chinese. In *Mapping the left periphery. The cartography of syntactic structures*, vol. 5, Paola Benincà and Nicola Munaro (eds.), 63–90; Oxford: Oxford University Press.
- Bartos, Huba (2003). Locating the Subjects in Mandarin Chinese. *Acta Orientalia Hungarica* 56: 149–172.
- Belletti, Adriana (2004). Aspects of the low IP area. In *The structure of IP and CP. The cartography of syntactic structures*, vol. 2, Luigi Rizzi (ed.), 16–51. Oxford: Oxford University Press.
- Benincà, Paola & Poletto, Cecilia (2004). Topic, focus and V2: Defining the CP sublayers. In *The structure of IP and CP. The cartography of syntactic structures*, vol. 2, Luigi Rizzi (ed.), 52–75. Oxford: Oxford University Press.
- Bianchi, Valentina & Mara Frascarelli. 2010. Is Topic a Root Phenomenon? *Iberia: An International Journal of Theoretical Linguistics* 2 (1): 43–88. [Special issue on Information Structure and Interfaces, edited by Angel Jimenez-Fernandez.]. <http://www.sifl.us.es/iberia/index.php/ij/issue/current>.
- Bonvino, Elisabetta. 2006. *Le sujet postverbal en italien parlé: syntaxe, zones et intonation*. Paris: Ophrys.
- Büring, Daniel (2003). On D-trees, beans and B-accent. *Linguistics and Philosophy* 26: 511 - 45.
- Chafe, Wallace (1976). Givenness, Contrastiveness, Definiteness, Subjects and Topics. In *Subject and topic*, Charles N. Li (ed.), 25–55. New York: Academic Press.
- Cheng, Lisa L.-S. and Rint Sybesma (to appear). Mandarin. In *The Handbook of Contemporary Syntax*; Artemis Alexiadou et al. (eds.), Berlin/New York: Mouton De Gruyter.
- Chomsky, Noam (1981). *Lectures on Government and binding*. Dordrecht: Foris.
- Cinque, Guglielmo and Luigi Rizzi (2008). The cartography of syntactic structures. *Studies in Linguistics: CISCL Working Papers* 2: 42–59. [<http://www.ciscl.unisi.it/publicazioni.htm#2008>].
- Ernst, Thomas (1998). On verb subcategorization in Chinese. In *Proceedings of the Third Ohio State University Conference on Chinese Linguistics, May 13–14, 1988*; Marjorie Chan and Thomas Ernst (eds.), 116–140. Bloomington, Indiana: Indiana University Linguistics Club.
- Ernst, Thomas (2002). *The syntax of adjuncts*, Cambridge: Cambridge University Press.
- Ernst, Thomas and Chengchi Wang (1995). Object Preposing in Mandarin Chinese. *Journal of East Asian Linguistics* 4 (3): 235-260.
- Erteshik-Shir, Nomi (2007). *Information structure. The syntax–discourse interface*. Oxford: Oxford University Press.
- Fan, Jiyan (1984). Duo-xiang NP ju [Sentences with multiple NPs]. *Zhongguo Yuwen* 1984, nr. 1: 28–34.
- von Fintel, Kai (1994). Restrictions on quantifier domains. Ph.D. diss., University of Massachusetts at Amherst. Amherst: GSLA.
- Frascarelli, Mara & Roland Hinterhölzl (2007). Types of Topics in German and Italian. In *On Information Structure, Meaning and Form*, Susanne Winkler and Kerstin Schwabe (eds.), 87–116. Amsterdam/ Philadelphia: John Benjamins.
- Frey, Werner (2004). Notes on the syntax and the pragmatics of German left dislocation. In *The syntax and semantics of the left sentence periphery*, Horst Lohnstein and Susanne Trissler (eds.), 203–233. Berlin: Mouton de Gruyter.
- Fu, Jingqi (1994). SOV word order in Chinese and IP specifier. Paper presented at the *Sixth North-American Conference on Chinese Linguistics* (NACCL-6), University of Southern California, May 14, 1994.
- Gasde, Horst-Dieter and Waltraud Paul (1996). Functional categories, topic prominence, and complex sentences in Mandarin Chinese. *Linguistics* 34 (2): 263–294.

- Grohmann, Kleanthes (2006). Top issues in questions: Topics – Topicalization – Topicalizability. In *Wh-movement. Moving on*, Lisa Lai-Shen Cheng and Norbert Corver (eds.), 249–287. Cambridge, Massachusetts: MIT Press.
- Haegeman, Liliane (2012). *Adverbial Clauses, Main Clause Phenomena, and Composition of the Left Periphery* [The Cartography of Syntactic Structures, Volume 8]. Oxford: Oxford University Press.
- Hou, John Yien-Yao (1979). Grammatical Relations in Chinese. Ph.D. diss., University of Southern California, Los Angeles.
- Huang, C.-T. James (1982). Logical relations in Chinese and the theory of grammar. Ph.D. diss., Massachusetts Institute of Technology.
- Huang, C.-T. James (1983). On the representation of scope in Chinese. *Journal of Chinese Linguistics* 11 (1): 36–91.
- Huang, C.-T. James (1984b). On the distribution and reference of empty pronouns. *Linguistic Inquiry* 15 (4): 531–574.
- Huang, C.-T. James, Y.-H. Audrey Li, and Yafei Li 2009. *The Syntax of Chinese*. Cambridge: Cambridge University Press.
- Krifka, Manfred (1998). Scope inversion under the rise-fall contour in German. *Linguistic Inquiry* 29 (1): 75–112.
- Krifka, Manfred (2007). Basic notions of information structure. In *Interdisciplinary Studies of Information Structure*, vol. 6, Caroline Féry and Manfred Krifka (eds.). University of Potsdam.
- LaPolla, Randy (1995). Pragmatic relations and word order in Chinese. In *Word order in discourse*, Pamela A. Downing and Michael Noonan (eds.), 297–332. Amsterdam: Benjamins.
- Larson, Richard and Sawada, Miyuki (2012). Root transformations and quantificational structure. In *Main Clause Phenomena: New Horizons*, Liliane Haegeman, Rachel Nye, and Lobke Aelbrecht (eds.), 47–78. Amsterdam: John Benjamins.
- Li, Charles N, and Sandra A. Thompson (1976). Subject and Topic: a new typology of language. In *Subject and topic*, Charles N. Li (ed.), 457–489. New York: Academic Press.
- Li, Charles N. and Sandra A. Thompson (1981). *Mandarin Chinese. A functional reference grammar*. Berkeley et alibi: University of California Press.
- Li, Linding (1986). *Xiandai hanyu juxing* [Sentence patterns of modern Chinese]. Beijing: Shangwu yinshuguan.
- Li, Yen-hui Audrey (1997). Structures and interpretations of nominal expressions. Ms., University of Southern California, Los Angeles.
- Li, Yen-hui Audrey (1998). Argument determiner phrases and number phrases. *Linguistic Inquiry* 29, 4: 693–702.
- Li, Y.-H. Audrey (2000). Topic structures and minimal effort. In [Issues on topics](#) (ZAS Papers in Linguistics 20), Kerstin Schwabe, André Meinunger and Dieter Gasde (eds.). Berlin: ZAS. Available at: <http://www.zas.gwz-berlin.de/206.html?&L=1>.
- Lin, Jowang (1992). The syntax of *zenmeyang* ‘how’ and *weishenme* ‘why’ in Mandarin Chinese. *Journal of East Asian Linguistics* 1 (3): 293–331.
- Liu, Charles A. (1977). On two topic markers in Chinese. *Journal of the Chinese Language Teachers’ Association* 12 (3): 204–209.
- Lu Jianming (1980). Hanyu kouyu jufa li de yiwei xianxiang [Inversion in the grammar of spoken Chinese]. *Zhongguo yuwen* 1980, nr. 1: 28–41.
- Lu, Peng (2003). La subordination adverbiale en chinois contemporain. Ph.D. dissertation, University Paris 7. [Revised version published as: Lu, Peng (2008). *Les phrases complexes en chinois*. Beijing: Waiwen chubanshe (www.flp.com.cn)]
- Lü Shuxiang (1986). Zhu wei weiyu ju ju li [Samples of sentences with subject-predicate predicates]. *Zhongguo yuwen* 1986, nr. 5: 334–340.
- Lü Shuxiang et al. (eds.) (1980/2000), *Xiandai hanyu babaici* [Eight hundred words of modern Chinese]. Beijing: Shangwu yinshuguan.
- Pan, Haihua and Jianhua Hu (2002). Licensing dangling topics in Chinese. Paper presented at the *Seventy-sixth annual meeting of the Linguistic Society of America*, San Francisco, January 3–6, 2002.
- Pan, Victor Junnan (2011a). ATB-topicalization in Mandarin Chinese: An intersective operator analysis. *Linguistic Analysis* 37 (1-2): 231–272.

- Pan, Victor Junnan (2011b). *Interrogatives et quantification en chinois mandarin : une approche générative*. Presses Universitaires de Rennes. [Revised version of Pan 2007. *Interrogation et quantification : le rôle et la fonction des particules et des syntagmes interrogatifs en chinois mandarin*. Ph.D. dissertation, University of Nantes].
- Paoli, Sandra (2007). The fine structure of the left periphery: Comps and subjects. Evidence from Romance. *Lingua* 117: 1057–1079.
- Paris, Marie-Claude (1979). Some aspects of the syntax and semantics of the *lian...ye/dou* construction in Mandarin. *Cahiers de linguistique - Asie orientale* 5 (1): 47–70.
- Paris, Marie-Claude (1994). Position syntaxique et valeur discursive: le cas de *même* en chinois. *Cahiers de linguistique - Asie orientale* 23 (1-2): 241–253.
- Paul, Waltraud (1988). *The Syntax of Verb-Object Phrases in Chinese: Constraints and Reanalysis*. Paris: Editions Langues Croisées. Available at: <http://crlao.chess.fr/document.php?id=177>.
- Paul, Waltraud (2002). Sentence-internal topics in Mandarin Chinese: the case of object preposing. *Language and Linguistics* [Academia Sinica, Taiwan] 3 (4): 695–714.
- Paul, Waltraud (2005b). Low IP area and left periphery in Mandarin Chinese. *Recherches linguistiques de Vincennes* 33: 111–134.
- Paul, Waltraud (to appear). Adverbs. In *Encyclopedia of Chinese language and linguistics*, Wolfgang Behr, Zev Handel, C.-T. James Huang, and Rint Sybesma (eds.). Leiden: Brill
- Paul, Waltraud and John Whitman (2008). *Shi...de* focus clefts in Mandarin Chinese. *The Linguistic Review* 25 (3-4): 413–451.
- Paul, Waltraud and John Whitman (in preparation). Topic prominence. In *The Companion to Syntax, 2nd Edition*, Martin Everaert and Henk van Riemsdijk (eds.). Oxford: Blackwell.
- Reinhart, Tanja (1982). Pragmatics and linguistics: an analysis of sentence topics. *Indiana University Linguistics Club* (Indiana, Bloomington): 1–38. [First published in: *Philosophica* 27 (1981): 53–94].
- Rizzi, Luigi (1997). The fine structure of the left periphery. In *Elements of Grammar*, Liliane Haegeman (ed.), 281–337. Dordrecht: Kluwer.
- Rizzi, Luigi (2004a). Locality and left periphery. In *Structures and beyond. The cartography of syntactic structures*, vol. 3, Adriana Belletti (ed.), 104–131. Oxford: Oxford University Press.
- Rizzi, Luigi (ed.) (2004b), *The structure of IP and CP. The cartography of syntactic structures*, vol. 2. Oxford: Oxford University Press.
- Roberts, Craige. (1996). Information structure: Towards an integrated formal theory of pragmatics. In *OSUWPL volume 49: Papers in Semantics*, Jae Hak Yoon and Andreas Kathol (eds.). Columbus, Ohio: The Ohio State University Department of Linguistics.
- Ross, John R. (1967). Constraints on variables in syntax. Ph.D. diss., Massachusetts Institute of Technology.
- Saito, Mamoru (1985). Some asymmetries in Japanese and their theoretical implications. Ph.D. diss., Department of Linguistics, MIT, Cambridge, Mass.
- Shi, Dingxu (2000). Topic and topic-comment constructions in Mandarin Chinese. *Language* 76 (2): 383–408.
- Shyu, Shu-ing (1995). The Syntax of Focus and Topic in Mandarin Chinese. Ph.D. diss., University of Southern California, Los Angeles.
- Shyu, Shu-ing (2001). Remarks on object movement in Mandarin SOV order. *Language and Linguistics* [Academia Sinica, Taiwan] 2 (1): 93–124.
- Smith, Carlota (1991). Sentences in texts: A valediction for sentence topic. In *Interdisciplinary approaches to language. Essays in honor of S.-Y. Kuroda*, Carol Georgopoulos and Roberta Ishihara (eds.), 545–564. Dordrecht: Kluwer.
- Tan Jingchun (1997). Dòng+jiéguǒ bīnyǔ' jí xiāngguān jùshì [Structure of verb + object of result and its relevant sentence patterns]. *Yuyan jiaoxue yu yanjiu* 1997, nr. 1: 85–97.
- Tang, Chih-Chen Jane. 1990. *Chinese Phrase Structure and the extended X-bar Theory*. Doct. dissertation, Cornell University.
- Tang, Chih-Chen Jane (2001). Functional projections and adverbial expressions in Chinese. *Language and Linguistics* [Academia Sinica, Taipei] 2 (2): 203–241.
- Tsai, Wei-tian Dylan (1994). On economizing the theory of A-bar dependencies. Ph.D. diss., Massachusetts Institute of Technology.

- Tsai, Wei-tian (2000). Object Fronting and Focus Placement in Chinese. Paper presented at the *International Symposium on Topic and Focus in Chinese*, Hong Kong Polytechnic University, June 21-22, 2000.
- Villalba, Xavier (1998). Right dislocation is not right dislocation. In *Studies on the syntax of central Romance languages. Proceedings of the 3rd Symposium on the syntax of central Romance languages*, Olga Fullana and Francesc Roca (eds.), 227–241. Girona: Universitat de Girona.
- Wang, Jing (1996). Cóng yǔyì jí chā kàn xiàndài hànyǔ bèi zì jù de shǐyòng [The employment of Modern Chinese *bèi* seen from the semantic difference]. *Yuyan jiaoxue yu yanjiu* 1996, nr. 2: 96–111.
- Wu, Jiangxin (1999). Syntax and semantics of quantification in Chinese. Ph.D. diss., University of Maryland at College Park.
- Wu, Weizhang (1995). Yuxu zhonggyao [On the importance of word order]. *Zhongguo Yuwen* 1995, nr. 6: 429–436.
- Xu, Liejiong (2004). Manifestation of informational focus. *Lingua* 114: 277–299.
- Xu, Liejiong (2006). Topicalization in Asian languages. In *The Blackwell companion to syntax*, Martin Everaert and Henk van Riemsdijk (eds.), vol. 5, 137–174.
- Xu, Liejiong and D. Terence Langendoen (1985). Topic structures in Chinese. *Language* 61 (1): 1–27.
- Xu, Liejiong and Liu, Danqing (1998). *Huati de jiegou yu gongneng* [Topic: Structure and function]. Shanghai: Shanghai jiaoyu chubanshe.
- Xu, Shu (1988). Cong yufa, yuyi he yuyong jiaodu tan ‘ming (shou) + ming (shi) + dong’ jushi [On the syntax, semantics and pragmatics of the structure ‘NP (patient) + NP (agent) + verb’]. *Yufa yanjiu he tansuo* nr 6: 50–63.
- Zhang, Ning (1997). Syntactic Dependencies in Mandarin Chinese. Ph.D. diss., University of Toronto.
- Zhu, Xiaoyu and Fan Xiao (1999). Er-jia dongzuo-dongci xingcheng de jigan jumo [The kernel sentence patterns with two-valence action verbs]. *Yuyan jiaoxue yu yanjiu* 1999, nr. 1: 111–122.

7. The syntax and semantics of the sentence periphery (Part II): Why particles are not particular [June 2013]

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7. The syntax and semantics of the sentence periphery (Part II): Why particles are not particular

Like the topic, sentence-final particles are also located in the periphery above the sentence proper (TP), but they surface at the opposite side. As is well-known, *particle* is just a cover term *faute de mieux* for mostly monosyllabic and unstressable elements with uncertain categorial status. One of the main aims of this chapter is therefore to demonstrate that the sentence-final particles (SFP) in Chinese can very well be assigned a categorial status and are best analysed as complementisers, i.e. as functional heads selecting a sentential complement.

This might at first sight look implausible when associating the term *complementiser* with items such as *that* or *if* in English, which head subordinate clauses. It makes sense, however, within the *split CP* approach initiated by Rizzi (1997) where the sentence periphery, i.e. the domain above the sentence proper (TP) is shown to consist of different layers of C, both in subordinate and matrix sentences. As a matter of fact, Zhu Dexi (1982) had already demonstrated that SFP in Chinese matrix sentences are to be divided into three classes with a rigid ordering, i.e. a fixed hierarchy, distinguishing the innermost “tense”-related particles nearest to the sentence from the more external ones indicating for example the sentence type (e.g. interrogative, imperative) or the speaker’s point of view.

Once again, the analysis of SFP as different types of complementisers to be argued for here is not uncontroversial, because it goes against the widespread assumption that VO languages exclude a (surface) head-final CP (cf. a.o. Dryer 1992, 2009). In other words, complementisers are claimed to pattern with verbs orderwise and as a consequence, only OV languages are expected to have a (surface) head-final CP with the complementiser following its complement clause. By contrast, Chinese as a VO language should possess head-initial CPs only, like English. Chinese is thus clearly “misbehaving” and once more challenges the general validity of cross-categorial correlations set up in typological studies.

The extensive literature on SFP – mostly written in Chinese – and the complexity of problems raised by SFP would easily provide enough material for an entire book. Accordingly, the issues that can be addressed in this single chapter here present a selection only and mainly concern fundamental questions pertaining to the syntax of SFP. The SFP *ne*, however, is examined in more detail; *ne* is chosen because it is one of the better studied SFP, and also because it is known to non-sinologists for its alleged role as an interrogative clause typing complementiser (cf. Cheng 1991). *Ne* thus serves as a case study outlining the questions to investigate for each SFP and the problems encountered in the analysis of SFP, such as the possible homophony between SFP and the realization of Top° (cf. chapter 6.1. above for Top° *ne*), on the one hand, and the possible homophony between SFP realizing different subprojections in the split CP, on the other (cf. the discussion of the three different *ne* in the remainder of the chapter). Note in this context that a monograph with an exhaustive survey of all SFP and a systematic analysis of their syntactic and semantic properties is still a missing desideratum in the domain of Chinese linguistics, the numerous studies on SFP concentrating on individual items only and rarely taking into account Zhu Dexi’s (1982) work.

The chapter is organized as follows. Section 7.1 introduces Zhu Dexi’s (1982) classification of SFP into three distributional classes and recasts it into a (slightly modified) split CP à la Rizzi (1997). Section 7.2 presents an overview of the three-layered CP in Chinese: TP < low CP < ForceP < AttitudeP and provides evidence in favour of SFP as C heads, displaying e.g. selectional restrictions on the type of clausal complement. Section 7.3 introduces the fundamental root vs. non-root asymmetry at work in the Chinese C-system and identifies two exclusively non-root Cs, i.e. *de* in the propositional assertion construction and *dehuà* in conditional clauses. Section 7.4 discusses the interaction of the SFP hierarchy with the ‘Topic > *lián* ‘even’ Focus’ hierarchy established in chapter 6.4 above. The conclusion in section 7.5 finally briefly discusses the findings in this chapter against the backdrop of approaches such as Toivonen (2003) who consider particles as “outliers” and relegate them to a domain outside of syntax proper.

7.1. Sentence-final particles as heads in a split CP

Before introducing Zhu Dexi's (1982) analysis of SFP, a few sentences with SFPs are provided in order to illustrate the phenomenon under discussion:

- (1) $[_{CP} [_{TP} Tā \quad bù \quad chōu \quad yān \quad] le]$
 3SG NEG inhale cigarette SFP
 'He no longer smokes.'
- (2) $[_{CP} [_{TP} Nǐ \quad gāngcái \quad shuō \quad shénme] láiizhe] ?$
 2SG just say what SFP
 'What did you just say?'

While *láiizhe* is in general acknowledged as an SFP indicating that the event took place in the "recent past" (cf. Song Yuzhu 1981: 275, Lü Shuxuang et al. 2000: 348-349), the semantic import of *le* is much more difficult to grasp. For the time being I resort to Li and Thompson's (1981: 240) label "currently relevant state", which in the case of (1) with a negated VP results in the interpretation of 'no longer' (cf. section 7.2.1.2 below for further discussion).

- (3) a. $[_{TP} Tā \quad huì \quad shuō \quad zhōngwén]$
 3SG can speak Chinese
 'He can speak Chinese.'
- b. $[_{CP} [_{TP} Tā \quad huì \quad shuō \quad zhōngwén] ma] ?$
 3SG can speak Chinese SFP
 'Can he speak Chinese?'
- (4) $[_{CP} [_{TP} Bāng \quad bāng \quad wǒ \quad de \quad máng \quad] ba]$
 help help 1SG SUB assistance SFP
 'Give me a hand.'

In (3b) *ma* encodes the sentence type, i.e. a yes/no question, and *ba* in (4) conveys the softened character of the imperative (hence Chao's [1968: 807] term "advisative *ba*").

- (5) $[_{CP} [_{TP} Tā \quad pǎode \quad zhēn \quad kuài \quad] a!]$
 3SG run DE really fast SFP
 'He runs really fast!'
- (6) $[_{CP} [_{TP} Jīntiān \quad xīngqī sān \quad ei ! \quad Nǐ \quad bié \quad wàngle \quad xiàwǔ \quad děi \quad shàngkè \quad] ei!]$
 today Wednesday SFP 2SG NEG forget afternoon must attend class SFP
 'Today is Wednesday (mind you)! Don't forget you have classes in the afternoon!'
 (slightly changed example from Zhu Dexi 1982: 213)

Exclamatives such as (5) are one of the multiple contexts for the SFP *a* (cf. 7.2.3.3 below for more discussion). As for *ei*, this SFP is used as a kind of "gentle reminder", i.e. in cases where the speaker assumes the other person to be up to date concerning the matter at hand, but nevertheless issues a reminder.

Last, but not least, as indicated by the bracketing, the SFPs are construed with the entire sentence and have scope over it; more precisely, SFPs as C heads select the sentential complement to their left, as evidenced by the numerous syntactic and semantic constraints on the type of complement observed for individual SFP to be discussed in the remainder of this chapter.

7.1.1. Zhu Dexi's (1982) three classes of SFP

Zhu Dexi (1982: 207–213) identifies three distributional classes of SFP whose relative order is fixed. The first class occurs nearest to the sentence (TP) and is said to express "tense"; it comprises SFP such as *le* and *láiizhe* (cf. [1] and [2] above). The SFP of the second class, SFP₂, to the right of the position

for SFP₁ convey notions such as question (*ma*) and imperative (*ba*) (cf. [3] and [4] above). The third, “outermost” class of SFP₃, finally, is explicitly stated to be different from the two other classes, because involving the speaker’s attitude or feelings; SFP belonging to this class are e.g. *a*, *ei* etc. (cf. [5] and [6] above). Zhu Dexi (1982: 208) emphasizes that co-occurring SFP belong to hierarchically different levels. We thus obtain the following configuration:

- (7) [TP] SFP₁] SFP₂] SFP₃]

This corresponds to the relative order between SFP established by Hu Mingyang (1981: 348), who is, however, much less exhaustive than Zhu Dexi (1982) and also does not attempt a semantic characterization of the three classes obtained.

The ordering restrictions underlying the configuration in (7) are illustrated below:

- (8) a. [_{CP2} [_{CP1} [_{TP} *Tā* *bù* *chōu* *yān*] *le*] *ma*]?
 3SG NEG inhale cigarette SFP₁ SFP₂
 ‘Does he no longer smoke?’
 b. * [_{CP1} [_{CP2} [_{TP} *Tā* *bù* *chōu* *yān*] *ma*] *le*]?
 3SG NEG inhale cigarette SFP₂ SFP₁
- (9) a. [_{CP2} [_{CP1} [_{TP} *Bié* *chàng*] *le*] *ba*]! Hu Mingyang (1981: 416)
 NEG sing SFP₁ SFP₂
 ‘Sing no more!’
 b. * [_{CP1} [_{CP2} [_{TP} *Bié* *chàng*] *ba*] *le*]!
 NEG sing SFP₂ SFP₁
- (10) a. [_{CP3} [_{CP2} [_{TP} *Jìnlái*] *b’ou* (= *ba* + *ou*)]! (Zhu Dexi 1982: 212)
 enter SFP(fusion)
 ‘Hurry, come in!’
 b. * [_{CP2} [_{CP3} [_{TP} *Jìnlái*] *ou*] *ba*]!
 enter SFP₃ SFP₂

Starting with the last example (10), a SFP₃ of class 3 such as *ou*, which expresses the speaker’s impatience, must follow the SFP₂ *ba*; since it consists of a single vowel, it fuses phonetically with the preceding SFP into a single syllable. Likewise, the innermost SFP₁ *le* must always precede SFP₂ such as the interrogative *ma* and the imperative *ba* (cf. [8a] and [9a]), as witnessed by the unacceptability of the opposite order (cf. [8b] and [9b]).

In fact, Zhu Dexi (1982) basically uses the same reasoning in order to determine the relative order of SFP as Rizzi (1997) does when establishing the hierarchy of the different projections in the split CP (cf. the discussion immediately below). Since – for semantic reasons – it is rather difficult to construe and find sequences where all the three classes co-occur, Zhu (1982: 208) applies the notion of *transitivity* in order to determine the relative order: if a given SFP *A* is shown to precede the SFP *B* and SFP *B* precedes the SFP *C*, then necessarily SFP *A* likewise must precede *C*. This same notion of transitivity also underlies Zhu Dexi’s (1982: 208) statement that the relative order always holds, i.e. also when a given SFP position remains empty, as in the combination of the SFP₁ *le* with the SFP₃ *ou* in (11) below. Last, but not least, SFP of the same class are mutually exclusive, such as e.g. *le* and *lázhe*, which both belong to the innermost class, SFP₁ (cf. [12] below).

- (11) *Bù zǎo l’ou* [= *le* + *ou*]
 NEG early SFP(fusion)
 ‘Hey, it’s already late!’

- (12) a. $[_{CP}[_{TP} \text{ Wǒ } \text{ chī } \text{ wǎnfàn}] \text{ le } / \text{ láizhe}]$
 1SG eat dinner SFP₁/ SFP₁
 ‘I (just) had dinner.’
- b. $*[_{CP}[_{TP} \text{ Wǒ } \text{ chī } \text{ wǎnfàn}] \{ \text{le } \text{ láizhe} \} / \{ \text{láizhe } \text{ le } \}]$
 1SG eat dinner SFP₁ SFP₁ SFP₁ SFP₁

7.1.2. The split CP à la Rizzi (1997)

Let us now turn to the split CP proposed by Rizzi (1997, 2004). As already discussed in chapter 6.4, Rizzi (1997) demonstrated in great detail that the sentence periphery above TP does not consist of a single CP hosting e.g. the fronted *wh*-phrase (and the “dummy” verb *do*, in the absence of an auxiliary verb) in English sentences such as $[_{CP} \text{ What}_i [_{C'} [_{C^\circ} \text{ did}] [_{TP} \text{ he buy } t_i]]]?$. On the contrary, the sentence periphery is “split up”, i.e. divided into numerous subprojections displaying a rigid order, among them projections for topic phrases and focus phrases. As for the heads present in the left periphery, i.e. complementisers, he likewise argued that they are of different types and hence occur in different projections within the split CP. Complementisers indicating the type of clause (declarative “force”, interrogative “force” etc., e.g. *that*, *whether* in English; *che* in Italian) head the projection ForceP *preceding* the topic and focus projections; by contrast, prepositional complementisers in Romance such as Italian *di* introducing infinitivals realize the head of FinitenessP, a projection immediately above TP and *below* topic and focus projections:

- (13) *Penso (*a Gianni) che, a Gianni, gli dovrei parlare* (Rizzi 1997: 304, [61], [62])
 think.1SG to Gianni that to Gianni him should speak
 ‘I think that to Gianni, I should speak to him.’
- (14) *Penso, a Gianni, di (*a Gianni) dovergli parlare*
 think.1SG to Gianni that to Gianni him.should speak
 ‘I think, to Gianni, ‘of’ to have to speak to him.’ [sic]

Subsequent studies of mostly Romance and Germanic languages extended this approach to matrix clauses and analysed as different types of complementisers those items at the sentence periphery that had so far been called “particles”, in want of a precise categorial status (cf. a.o. Munaro and Poletto 2002, 2011). Importantly, these studies also provided evidence for the existence of a discourse-related additional projection *above* ForceP, equivalent in function to the projection hosting SFP₃ in Chinese (cf. a.o. Benincà 2001 for Romance languages and Haegeman (2008), Haegeman and Hill [to appear] for West-Flemish):

- (15) DiscourseP > ForceP > FiniteP > TP

(Note that [15] concentrates on the subprojections within the split CP that are exclusively realized by heads, to the exclusion of topic and focus phrases.). The hierarchy in (15) thus extends Rizzi’s (1997, 2004) original hierarchy where the highest projection had been ForceP.

If we abstract away from the directionality of the different subprojections composing the split CP (head-initial for Rizzi [1997, 2004], head-final in Chinese) and just focus on the nature of the projections and their relative hierarchy, the parallelism between (15) and Zhu Dexi’s (1982) configuration (cf. [7] above) is evident. The lowest projection, FiniteP, is instantiated by the first class of SFP (labeled *tense* by Zhu Dexi); ForceP is realized by SFP of the second class indicating the sentence type (e.g. interrogative, imperative etc.) and the highest projection hosts the SFP of the third class conveying the speaker’s attitude or feelings, hence labelled *AttitudeP*. Given that the split CP in Chinese is exclusively a phenomenon of matrix clauses, it is evident that the lowest projection hosting SFP₁ cannot be described in terms of (non-)finiteness, in contrast to FiniteP in Rizzi’s original hierarchy, which hosts embedding Cs such as Italian *di* introducing infinitival clauses. Accordingly, the label *low CP* is chosen to denote this innermost layer in Chinese.

- c. *Xià yǔ láizhe*
 fall rain CLOW
 ‘It just rained.’

(Zhu Dexi’s comment: It just rained.)

On the basis of these examples, Zhu Dexi (1982: 209) proposes the following interpretative values for the three SFP: *láizhe* indicates that the event has occurred in the recent past, *le* signals that the situation at hand is (conceived of as) new, and *ne_i* expresses a continuing situation. Naturally, this characterization is not meant to postulate *tense* as a verbal category for Chinese. It rather attempts to capture the semantic import of the SFP, which is also reflected in the constraints imposed on the type of TP each SFP can select, to be examined in detail in the following sections.

7.2.1.1. The low C *láizhe*

Láizhe usually indicates that the event time is recent past and then often co-occurs with adverbs such as *gāngcái* ‘just, a moment ago’

- (19) *Tā gāngcái hái zài zhèr láizhe, zěnmē yī zhuǎnyǎn bù jiàn le?*
 3SG just still be here CLOW how 1 twinkling NEG see CLOW
 ‘He was still here a moment ago, how come he has disappeared all of a sudden?’
 (Lü Shuxiang et al. 2000: 348)

Note, though, that what counts as “recent past” depends on the speaker’s judgement of the immediacy of the event at hand (cf. Song Yuzhu 1981: 272). Accordingly, *láizhe* is compatible with temporal expressions such as *qián jǐ nián* ‘the past couple of years’, when the speaker wants to indicate that time has passed very fast and that the event at hand is still very much present to her/his mind:

- (20) *Qián jǐ nián tā hái zài zuò shēngyì láizhe*
 past several year 3SG still PROGR do business CLOW
 ‘In the past couple of years, he was still doing business.’

Furthermore, “recent past” can also apply to the speech time of a preceding utterance or refer to a former state of knowledge as in (22b) (cf. Chao Yuen Ren 1968: 810):

- (21) *Shéi fā yán láizhe?*
 who issue speech CLOW
 ‘Who did you say would give a speech?’
- (22) a. *Nǐ xìng shénme?*
 2SG call what
 ‘What’s your family name?’
- b. *[_{CP}[_{TP} Nǐ xìng shénme] láizhe]? (Chao Yuen Ren 1968: 810)*
 2SG call what CLOW
 ‘What (did you just say) is your family name?’
 ‘What was your family name?’ (I forgot.)

Being a low C, *láizhe* has access to material inside TP, as evidenced by the fact that *láizhe* cannot select as complement a TP containing a telic predicate (cf. Song Yuzhu 1981: 273):

- (23) **Tā rù dǎng láizhe*
 3SG enter party CLOW
 (Intended: ‘He entered the party recently.’)

Láizhe “recent past” is incompatible with telic verbs because their resultant state still holds at speech time, which is in contradiction with *láizhe* precisely excluding the speech time.

Láizhe is also incompatible with TPs whose predicate is negated (by either *bù* and *méi*), because in addition to locating the event in the recent past it also asserts its having taken place (cf. Song Yuzhu 1981: 275, Lü Shuxiang et al. 2000: 348-349):³

- (24) a. *Nǐ gāngcái shuō shénme láizhe ?*
 2SG just say what CLOW
 ‘What did you just say?’
- b. *Wǒ méiyǒu shuō shénme (*láizhe)*
 1SG NEG say what CLOW
 ‘I didn’t say anything.’

The event assertion component associated with *láizhe* also accounts for the fact that only *wh*-questions are compatible with *láizhe* (cf. [24]), to the exclusion of *yes/no* questions formed by adding *ma*:

- (25) **Tā fā yán láizhe ma ?* (Lü Shuxiang et al. 2000: 349)
 who issue speech CLOW FORCE

Consequently, *láizhe* is acceptable in rhetorical questions, where its assertion component is reinforced:

- (26) *Zuótiān nǐ shì bù shì qù kàn xiāngshān láizhe?* (Lü Shuxiang et al. 2000: 349)
 yesterday 2SG be NEG be go see Xiangshan CLOW
 ‘Didn’t you go to see the Xiangshan yesterday?’
- (27) *Wǒ gāngcái bù shì gēn nǐ shuō láizhe ma ? Wǒ bù xiǎng qù*
 1SG just NEG be with 2SG talk CLOWFORCE 1SG NEG want go
 ‘Didn’t I just tell you? I don’t want to go.’

(27) nicely illustrates that *láizhe* is compatible with the negation *bù shì* ‘isn’t it the case that...’ used to form a rhetorical question here. (27) allows us to identify *láizhe* as a low C, which has to precede SFP realizing ForceP such as *ma*, in accordance with the hierarchy TP < Clow < ForceP.

- (28) a. [_{ClowP}[_{TP} *Wǒ chī wǎnfàn*] *le* / *láizhe*]
 1SG eat dinner CLOW/ CLOW
 ‘I (just) had dinner.’
- b. **[_{ClowP}[_{TP} *Wǒ chī wǎnfàn*] {*le láizhe*}/{*láizhe le*}]*
 1SG eat dinner CLOW CLOW/ CLOW CLOW

The low C status of *láizhe* is further confirmed by the impossibility of its cooccurrence with another low C such as *le* (cf. [28b]), to be discussed in the next section:

7.2.1.2. The low C *le*

As already observed by Lü Shuxiang (1942: 260; section 15.21), the semantic import of *le* is extremely difficult to capture. This is probably the reason why of the hundred pages devoted to SFP in Li and

³ This constraint might be too strong, given that some of the native speakers consulted accepted *láizhe* in sentences with a negated predicate (cf. [24b]) as well as in (genuine) yes/no questions with *ma* (cf. [25]), in contrast to the other set of speakers confirming the judgements in Song Yuzhu (1981) and Lü Shuxiang et al. (2000: 349). Since the first set of speakers considering (24b) and (25) as well-formed with *láizhe* all belong to the younger generation, it is not excluded that for them *láizhe* no longer possesses the event assertion feature.

Thompson (1981: 238–318), sixty pages are filled with examples for *le* alone.⁴ The present section does not provide any progress on that thorny issue, either, but instead concentrates on the interaction of the low *C* *le* and material inside TP. Li and Thompson’s (1981: 238) label “currently relevant state” for *le* is adopted here, for it captures rather well the – admittedly very minimal – common denominator for the different cases of *le*, i.e. the fact that it “closes off” the sentence and relates the event to the speech time (in the absence of any other explicit reference time), which might induce an interpretation of the situation as being new.⁵ (29) – (32) below represent a very small sample of sentences illustrating the point just made, viz. that it is often difficult to determine the meaning *le* contributes to the sentence. (For more examples, cf. Li and Thompson 1981: 238–300).

- (29) [_{C_{low}P} [_{TP} Wǒ zuótiān dào Zhāng jiā chī fàn] *le*] (Chao Yuen Ren 1968: 798)
1SG yesterday go Zhang home eat food CLOW
‘I went to the Zhangs for dinner yesterday.’
- (30) Xià xuě *le*!
fall snow CLOW
‘(Look,) it’s snowing.’
- (31) Tā shì xìzhūrèn *le* (based on example [25] in Marjorie K.M. Chan 1980: 53)
3SG be institute.director CLOW
‘He is the institute director (now).’ [implying he wasn’t before]
- (32) [_{C_{low}P} [_{TopP} [_{TP} Wǒ yī ān mén-líng] [_{Top} [_{TP} tā jiù lái kāi mén] *le*]]]⁶
1SG once ring door-bell 3SG then come open door Clow
‘As soon as I rang the door bell, he came and opened the door.’
(slightly modified example from Chao Yuen Ren 1968: 799)

In (29), *le* signals that the proposition is presented by the speaker as her/his contribution relevant to the conversation at hand and can be paraphrased as ‘here is what I have to say’. Example (30) illustrates that a situation can be presented as new with respect to the subjective perception of the speaker, i.e. it might have snowed before, but it is only at this moment that the speaker notices it. *Le* can also indicate that a situation obtains at the speech moment and did not prevail before, hence leading to its interpretation as a new situation (cf. [31]). (32) finally shows that when an explicit reference time is provided (‘as soon as I rang the bell’), *le* relates the event to that time.

⁴ The remaining forty pages discuss *a*, *ou*, *ba*, and *ne*, the SFP *ma* being examined in chapter 18 on questions. Though my presentation in the present chapter does not claim total exhaustivity, Li and Thompson’s (1981: 238) statement that there are six SFP is surprising, given the much more comprehensive inventory reported in the literature preceding their grammar, among them Chao Yuen Ren (1968: 797–814, section 8.5.5), who lists as many as twenty-six SFP (including some extraneous items, though). They do not seem to be aware of the strict ordering restrictions observed by Zhu Dexi (1982, ch. 16) for SFP in general, either. Quite on the contrary, Li and Thompson (1981: 238) seem to consider the strict ordering as an idiosyncrasy of *le*: “...[*le*] can co-occur with certain other particles, such as *a*, *ou*, and the question particle *ma*, all of which, if they occur, must follow *le*.”

⁵ Y.-H. Audrey Li (1992: 153, note 16) tentatively suggests Infl-status for the sentence-final particle *le*. Given its restricted acceptability in finite embedded clauses (cf. section 7.3.2 below), this cannot be correct, though. The same caveat applies to Tang Sze-Wing (1998: 39 ff) who locates the SFP *le* and *lái* in T (and stipulates T-to-C movement in Chinese). Sybesma (1999: 66) contents himself with observing that “sentence-*le* heads a projection which performs crucial functions TP is supposed to perform in other languages”. Finally, Li Boya (2006: 171) – without further explanation – postulates *le* as instantiation of the category *Deik*, the latter claimed to be situated below ForceP and above FinP in the Chinese split CP. The only other passage mentioning *le* is on page 125 where it is likened to the SFP *le* in Cantonese “mark[ing] realization” and illustrated by the Mandarin Chinese example (i) (her glosses and translation):

(i) Wǒ xīn -lǐ biàn de gāoxìng hé qīngsōng de duō *le*
1S heart-inside become DE happy and relieved DE much PRT
‘My heart has become much happier and more relieved.’ (= Li Boya 2006: 125, [3b])

⁶ For evidence in favour of the hierarchy ‘low CP > TopP’, cf. section 7.4 below.

The semantic contribution of *le* is more straightforward in sentences containing the perfective aspect suffix *-le* or the “neutral” negation *bù*, compatible with stative and activity verbs (cf. a.o. Teng Shou-hsin 1973, Li & Thompson 1981, Ernst 1995, Hsieh Miao-Ling 2001, Lin Jo-wang 2003).

- (33) a. *Wǒ zài zhèr zhu-le wǔ nián le*⁷ (Zhu Dexi 1982: 209)
 1SG at here live-PERF 5 year CLOW
 ‘I have been living here for five years now.’

- b. *Wǒ zài zhèr zhu-le wǔ nián*
 1SG at here live-PERF 5 year
 ‘I (have) lived here for five years.’

- (34) [_{ClowP}[_{TopP} *Nà* [_{Top}[_{TP} *wǒ jiù bù děng tā*] *le*]]]
 in.that.case 1SG then NEG wait 3SG CLOW
 ‘In that case I will no longer wait for him.’

As emphasized by Zhu Dexi (1982: 209), *le* relates the event to the speech time, which leads to the meaning differences between (33a) and (33b); while (33b) leaves open whether the subject *wǒ* ‘I’ still lives here, (33a) with the SFP *le* unambiguously states that my living here still obtains at the speech time. Concerning sentence (34), its meaning is derived in a clearly compositional way, which nicely reflects that *le* as C has scope over the entire sentence: *le* signaling that the proposition ‘I won’t wait for him’ obtains at the speech time (in the absence of any other reference time), we obtain ‘I will no longer wait for him’.

The situation is different when the sentence contains a predicate negated by *méi*:

- (35) a. [_{TP} *Tā méi chī wǔfàn*]
 3SG NEG eat lunch
 ‘He hasn’t eaten lunch.’
 b. *[[_{ClowP}[_{TP} *Tā méi chī wǔfàn*] *le*]
 3SG NEG eat lunch CLOW

(35b) is unacceptable because there is a contradiction between the negation of the completion of an event mediated by *méi* and the requirement of *le* to relate this state of affairs to the speech time and present it as a newly obtained situation (also cf. Sybesma 1999: 64)

These observations concerning the impact of the sentence-internal negation on the acceptability of *le* go back to Teng Shou-hsin (1973: 26) and reveal that the low C *le* interacts with material inside TP, on a par with the low C *láizhe* discussed above. In this respect low C is clearly different from the higher projections ForceP and AttitudeP (cf. sections 7.2.2 and 7.2.3 below).

- (36) a. [_{ForceP}[_{ClowP}[_{TP} *Tā bù chōu yān*] *le*] *ma*? (= [8] above)
 3SG NEG inhale cigarette CLOW FORCE
 ‘Does he no longer smoke?’
 b. *[[_{ClowP}[_{ForceP}[_{TP} *Tā bù chōu yān*] *ma*] *le*?
 3SG NEG inhale cigarette FORCE CLOW

⁷ As witnessed by their co-occurrence within the same sentence, the verbal suffix *-le* indicating perfective aspect is distinct from the homophonous SFP *le*, “although” both behave as clitics on the surface and form a phonetic unit with the preceding word (cf. a.o. Chao Yuen Ren 1968: 246, Teng Shou-hsin 1973, Marjorie K. M. Chan 1980, Li and Thompson 1981: 296, Sybesma 1999: 65). Unlike the SFP *le* realizing C, the perfective *-le* instantiates the head *Asp*^o situated above vP and attracting V (cf. Lin Tzong-Hong 2001; Paul & Whitman 2010). Although the non-identity, i.e. homophony of the perfective aspect suffix *-le* and the low C *le* has been established for half a century now, claims that both items instantiate one and the same category regularly make their reappearance in the literature, a bit like the famous Loch Ness monster.

- (37) *_[CLOWP_{TP}] Wǒ chī wǎnfàn] {le láizhe}/{láizhe le } (= [28b] above)
 1SG eat dinner CLOW CLOW/ CLOW CLOW

To round up this section, the low C status of *le* is straightforward, because it can only precede, but not follow a Force head such as *ma* (cf. [36]), nor can it co-occur with another low C such as *láizhe* (cf. [37]).

7.2.1.3. The low C *ne*₁

In order to explain the indexation of the low C *ne* as *ne*₁, it is necessary to somewhat anticipate the discussion in the remainder of this chapter, where following Zhu Dexi (1982: ch. 16) three homophonous SFP *ne* are postulated: low C *ne*₁, Force *ne*₂ and Attitude *ne*₃.⁸ Besides the different meanings associated with each of these heads, to acknowledge the existence of three homophonous *ne* hosted by distinct subprojections in the split CP is the only way to account for the different orders observed in combination with other SFP; the assumption of a single *ne* would simply lead to contradictory formulations of its ordering restrictions.

To my knowledge, Zhu Dexi (1982, ch. 16) is the first to posit three *ne* with different semantic functions, labelling them *ne*₁, *ne*₂ and *ne*₃. Since he does so without giving any further explanation, the task in the following sections is to provide the arguments underlying his choice and to invalidate the numerous proposals in favour of a single *ne* (cf. a. o. Hu Mingyang 1981; Paris 1981: 380–417; William C. Lin 1984; Li Boya 2006: 64–65; Wu Guo 2005; Victor Junnan Pan 2011b: 94; Constant 2011).⁹

As pointed out by Zhu Dexi (1982: 210), *ne*₁ can combine with sentences expressing an ongoing activity (cf. [38]) or indicating a continuing state (cf. [39]):

- (38) Tā zhèng zài tiē -zhe biāoyǔ ne (Zhu Dexi 1982: 210)
 3SG just PROGR paste-DUR poster CLOW
 ‘He is pasting posters.’
- (39) Mén kāi -zhe ne
 door open-DUR CLOW
 ‘The door is open.’

Admittedly, in (38), it is difficult to decide how much of the progressive semantics is contributed by *ne* and how much by the aspectual auxiliary *zài* and the adverb *zhèng* ‘just’, the more so as *ne* can be omitted here. By contrast, *ne* in (39) with a stative predicate is obligatory, as mentioned in passing by Zhu Dexi (1982: 210). Against the backdrop of Djamouri and Paul’s (2011, in preparation) new approach to the verbal suffix *-zhe*, the obligatory nature of *ne* in constructions of the type illustrated in (39) provides a clear argument in favour of this *ne* as an “innermost” SFP, i.e. a low C. The thrust of their analysis is the non-autonomous, dependent character of the verb suffixed by *-zhe*; if the latter is not the complement of another head, such as the aspectual auxiliary *zai* in (38), the sentence needs to be “closed off”, a function fulfilled by *ne* in (39). In other words, *ne*₁ has access to and interacts with material inside TP, which – as we have already observed above for *láizhe* and *le* – is a characteristic of low C.¹⁰

⁸ Recall from chapter 6.1 above that there also exists a *ne* realizing the head of TopicP, which being a different category is not subsumed under the SFP by Zhu Dexi (1982, ch. 16). For more discussion, cf. section 7.2.2.2 below.

⁹ To be more precise, for Constant (2011: 1), “sentence-final *ne* is ambiguous between the durative aspect marker *ne*_{ASP} and the contrastive topic (CT) operator *ne*_{CT}.” In other words, he proposes a unifying analysis of *ne*₂, *ne*₃ and Top° *ne*, and distinguishes them from the low C *ne*₁.

¹⁰ Evidently, this is an extremely simplified formulation of a rather complex situation. Suffice it to point out here that Djamouri and Paul’s (2011) analysis challenges the received wisdom of *-zhe* as a durative aspect suffix. In our view, *-zhe* is *not* an aspect marker at all, but a suffix signaling the dependent status of the verbal projection concerned; in other words *-zhe* has *no* inherent semantics. The fundamental difference between *-zhe*, on the one

The low C status of *ne_I* is also confirmed by its having to precede SFP realizing ForceP such as *ba* (cf. [40]) and *ma* (cf. [41]):

- (40) *Tā hái méi zǒu ne ba?* (Hu Mingyang 1981: 348)
 3SG still NEG leave CLOW FORCE
 ‘He hasn’t left yet, I suppose?’

Note that *ba* here is the Force head used with questions, described by Li and Thompson 1981: 307 as “soliciting agreement”. It is not the *ba* in imperatives already encountered above (cf. [4]), which has the effect of softening the order. (For further discussion, cf. section 7.2.2 on ForceP below.)

- (41) *Nǐ dài -zhe yàoshi ne ma?* (Constant 2011: [17]; my glosses and translation)¹¹
 2SG carry-DUR key CLOW FORCE
 ‘Do you have the keys with you’

Being a low C itself, *ne_I* cannot co-occur with other low C such as *lázhe* and *le* (cf. [43] and [44]), irrespective of the order chosen:

- (42) a. *Mén kāi -zhe ne* (Zhu Dexi 1982: 209)
 door open-DUR CLOW
 ‘The door is open.’
 b. *Mén kāi le*
 door open CLOW
 ‘The door is open now.’
 c. *Mén kāi -zhe láizhe*
 door open-DUR CLOW
 ‘The door was open (a moment ago).’

- (43) $*[_{CLOWP[TP} \text{ Mén kāi -zhe}] \{ne \text{ láizhe} / \text{láizhe ne} \}$
 door open-DUR CLOW CLOW / CLOW CLOW

- (44) $*[_{CLOWP[TP} \text{ Mén kāi} \{ne \text{ le} / \text{le ne} \}$
 door open CLOW CLOW / CLOW CLOW

This section has established the existence of the low C *ne_I*, associated with continuing states or ongoing activities. Given this description of the semantics of *ne_I*, it is not surprising that it has been analysed as basically aspectual in nature (cf. Marjorie K. M. Chan 1980), even though *qua* SFP it occupies a position outside the sentence proper. We observe here the same tension between semantic import and syntactic position as in Zhu Dexi’s (1982: 208) characterization of the low C *lázhe*, *le* and *ne_I* as related to tense, an issue to be taken up at the end of this chapter.

Last, but not least, the low C *ne_I* cannot be properly described in the rather general terms of “hearer engagement” proposed by analyses attempting to unify the different *ne* (cf. a.o. Hu Mingyang 1981: 417; Wu Guo 2005: 47), which challenges the feasibility of a unifying approach to *ne*. (For further discussion, cf. sections 7.2.2.2 and 7.2.3.1 below)

hand, and the aspect suffixes *-le* and *-guo*, on the other, is reflected in the severely constrained use of the latter outside matrix contexts, whereas exactly the opposite holds for *-zhe*, which rather freely occurs in embedded contexts, but is severely constrained in matrix contexts.

¹¹ Not all of the native speakers consulted accepted (41). Note that younger speakers were in both groups, accepting or refusing (41).

7.2.1.4. *The low C zhene*

The SFP *zhene* acting as an intensifier for sentences with stative predicates (cf. Lü Shuxiang et al. 2000: 667) is rarely mentioned in the studies on SFP (but cf. Li Wenshan 2007). This is probably due to the fact that many consider it a feature of Northern Chinese and that in the standard language it is not encountered in all of its uses:

- (45) [_{CLOWP} [_{TP} Běijīng kǎoyā yǒumíng] zhene] (Lü Shuxiang et al. 2000: 667)
Beijing roast.duck famous CLOW
'The roast Beijing duck is extremely famous.'

- (46) Háizi pàng zhene (Li Wenshan 2007: 62, [7b])
child fat CLOW
'The child is really fat.'

It is nevertheless included here because, as pointed out by Zhu Dexi (1982: 208), the SFP *zhene* is often confused with the sequence of the verbal suffix *-zhe* followed by the SFP *ne*_I (cf. [47a]):¹²

- (47) a. [_{CLOWP} [_{TP} Tā chàng-zhe] ne]]
3SG sing -DUR CLOW
'He is singing.'
- b. [_{CLOWP} [_{TP} Tā chàng-zhe gē]ne]]
3SG sing -DUR song CLOW
'He is singing songs.'

In the presence of an object though, no misparsing is possible, *-zhe* as verbal suffix preceding the object (cf. [47b]), and *zhene* as SFP following it (cf. [48]):

- (48) [_{CLOWP} [_{TP} Wǒ xiǎng nǐ] zhene] (Chao 1968: 248)
1SG think 2SG CLOW
'I miss you terribly.'

As shown in (48) *zhene* is not restricted to sentences with adjectives, but combines with stative predicates in general.

- (49) Wǒmen(*bù) kāixīn zhene (Li Wenshan 2007: 62, [6b], [7b])
1PL NEG happy CLOW
'We're extremely happy.'

- (50) a. Háizi pàng zhene
child fat CLOW
'The child is terribly fat.'

¹² This is the case for the only example with *zhene* provided by Li and Thompson (1981), the sentences (45), (46) in Paris (1981: 400), and the sentences (13), (16) in Wu Guo (2005: 62):

(i) Nèi ge fángjiān hēi zhe ne (Li and Thompson 1981: 222, [151];
that CL room black INT REX their glosses and translation)
'That room is pretty dark.'

Li and Thompson visibly misanalyse the low *C zhene* as a special "intensifier" use of the combination of the verbal suffix *-zhe* plus SFP *ne*, the latter labelled "response to expectation" (REX). Note that Chao (1968: 249) gives nearly the same example with the adjective *hēi* as illustration of the use of the SFP *zhene*:

(ii) Xié hēi zhene
shoe black CLOW
'The shoes are pretty black.'

- b. **Háizi pàngūhū zhene*
 child plump CLOW

Last, but not least, like the other low C, *zhene* is sensitive to TP-internal material. It is unacceptable when the predicate is negated (cf. [49]) or modified by a degree adverb (cf. Lü Shuxiang et al. 2000: 667); nor does *zhene* allow for a derived adjective as predicate (cf. [50b]).¹³

7.2.1.5. Interim summary

The low C *lázhe*, *le*, *ne*₁ and *zhene* all interact with TP-internal material, i.e. they depend on the properties of the extended verbal projection including its aktionsart, which in turn has an impact on the type of negation to be chosen. Thus, *lázhe* “recent past” is incompatible with telic verbs, whose resultant state still holds at the speech time, a situation not compatible with *lázhe* precisely excluding the speech time. For the group of speakers that associate *lázhe* with an event-assertion feature, *lázhe* is unacceptable with negation and questioning (except for rhetoric questions, which reinforce the assertion). The semantic import of *le* is very difficult to grasp, but the common denominator for the large variety of interpretations associated with *le* seems to be aptly captured by Li and Thompson’s (1981: 238) label “currently relevant state”. Like *lázhe*, *le* is sensitive to TP-internal material, as witnessed by its incompatibility with *méi* negating the completion of an event. Finally, notwithstanding its status as a SFP, *ne* has been likened to “aspect” insofar as it combines with ongoing actions or continuing states. Against this backdrop, Zhu Dexi’s (1982: 208) characterization of these three innermost SFP as “tense-related” is very insightful, even if “tense” here is naturally not meant to refer to a property of the extended verbal projection inside TP itself. Importantly, as far as I can see, the association with a certain “tense” is not encoded in the SFP itself, either, but rather obtains as an inference resulting from the interaction between the aktionsart and related properties of the TP-internal predicate, on the one hand, and the semantic features of the SFP itself. This view ties in with the general caveat issued by Hu Mingyang (1981: 416) that due to the complex interaction between the SFP and the material inside TP it is often very difficult to determine the contribution of the SFP themselves. Last, but not least, though not “tense-related”, the low C *zhene*, indicating a high degree (‘awfully, terribly’) also imposes constraints on its TP-complement insofar as this TP must contain a stative predicate, to the exclusion of derived adjectives.

7.2.2. ForceP: the C₂ heads *ma*, *ne*₂, *ba*_{Qconfirmation}, *ba*_{IMP}

This section examines SFP realizing the head of Force Phrase above Clow Phrase, i.e. the second projection above TP hosting C-elements: TP < ClowP < ForceP. Among these force heads, there is another *ne*, labeled *ne*₂, as well as two different *ba*, one conveying a softened imperative (*ba*_{IMP}), the other used in confirmation requests and conjectures (*ba*_{Qconfirmation}).

7.2.2.1. The Force head *ma*: yes/no question

As mentioned in the introduction to section 7.2 above, the SFP *ma* indicating the yes/no question status of a sentence (cf. [51b]) was the first SFP to be analysed as C (cf. Lee Hun-tak Thomas 1986, Tang Ting-chi 1989: 540):¹⁴

- (51) a. *Tā huì shuō zhōngwén*
 3SG can speak Chinese
 ‘He can speak Chinese.’

¹³ This observation ties in nicely with the distinction argued for in chapter 5.3 between *simple adjectives* and *derived adjectives*, the latter subsuming partially reduplicated adjectives such as *pàngūhū* ‘plump, chubby’.

¹⁴ Tang Ting-chi (1989: 539–543) explicitly stated that SFP *qua* C have scope over the entire sentence to their left. He had, however, problems to reconcile this analysis of SFP as C with the fact that the only position available for topics was Spec,CP at that time, i.e. a position not (strictly) c-commanded by C.

- b. $[_{CP_{force}[_{TP} \text{ Tā huì shuō zhōngwén}] \text{ ma}]?$
 3SG can speak Chinese FORCE
 ‘Can he speak Chinese?’

Since *ma* turns a declarative sentence into a *yes/no* question, it must have scope over the entire sentence, whence the analysis of *ma* as a C-head taking a clausal complement (or a low CP, cf. [55] below).¹⁵ The complement status of TP and the head status of *ma* are confirmed by the fact that *ma* imposes selectional restrictions: it can only select a non-interrogative TP and is therefore incompatible with *wh*-questions (cf. [52a]) and TP-internal *yes/no* questions in the ‘A-*bù*-A’ form (cf. [52b]). (For further discussion of ‘A-*bù*-A’ questions, also called ‘A-not-A’ questions, cf. C. -T. James Huang 1982: ch. 4.3.3; 1991; Huang, Li and Li 2009, chapter 7):

- (52) a. $*[_{CP_{force}[_{TP} \text{ Nǐ wèn-le shéi}] \text{ ma}]?$
 2SG ask -PERF who FORCE
 (‘Whom did you ask?’)
- b. $*[_{CP_{force}[_{TP} \text{ Tā dǒng bù dǒng wèntí}] \text{ ma}]?$
 3SG understand NEG understand problem FORCE
 (‘Does he understand the problem?’)

Importantly, as discussed in detail by Lu Jianming (1985: 236), a *yes/no* question in Chinese can also be formed without *ma*, in which case a rising intonation is required (also cf. Pan 2011b: 67):

- (53) $\text{ Tā huì shuō zhōngwén } \nearrow ?$
 3SG can speak Chinese
 ‘Can he speak Chinese?’

By contrast, the intonation in a *yes/no* question with *ma* is either falling or rising. The falling intonation is the same as in a declarative sentence and presents the default case; the rising intonation is said to emphasize the interrogative character of the sentence:

- (54) a. $\text{ Tā huì shuō zhōngwén ma } \searrow ?$
 3SG can speak Chinese FORCE
 ‘Can he speak Chinese?’
- b. $\text{ Tā huì shuō zhōngwén ma } \nearrow ?$
 3SG can speak Chinese FORCE
 ‘Can he speak Chinese?’

Last, but not least, the Force head status of *ma* is confirmed by its position above, i.e. to the right of low C such as *le* (cf. [55] below), *lái* (in rhetorical questions, cf. [27] above), and *ne*₁ (cf. [41] above).

- (55) $[_{ForceP}[_{C_{lowP}}[_{TP} \text{ Tā bù chōu yān }] \text{ le }] \text{ ma}]?$
 3SG NEG inhale cigarette CLOW FORCE
 ‘Does he no longer smoke?’

7.2.2.2. The Force head *ne*₂ in “follow-up” questions and a brief digression on “truncated questions”

The SFP *ne*₂ is familiar to many scholars in general linguistics because it has been claimed to play a crucial role in “typing” a sentence as question in *wh* in-situ languages such as Chinese (cf. L.-S. Lisa

¹⁵ Strangely enough, the *yes/no* question particle *ma* is not considered as an instantiation of the head *Force* by Li Boya (2006: 32), although Rizzi’s split CP approach serves as the basis of her dissertation. Quite on the contrary, Li Boya (2006: 171) goes as far as claiming that the clause-typing heads, i.e. Force and Mood in her work, always remain covert in Mandarin and Cantonese (whereas they may be realized overtly in Wenzhou).

Cheng 1991). More precisely, according to L.-S. Lisa Cheng's (1991) theory of *clausal typing*, languages *either* employ question particles *or* syntactic *wh*-movement to type a clause as a *wh*-question. Importantly, languages are said to make a choice between the two means, the availability of question particles correlating with the lack of syntactic *wh*-movement. Chinese being a language without visible syntactic movement of *wh*-phrases, the particle *ne* observed with *wh*-questions was therefore assigned the role of typing.¹⁶

This analysis is, however, straightforwardly invalidated by the well-known *optionality* of *ne*₂ in *wh*-questions (cf. [56]) and A-not-A questions (cf. [57]) (cf. a.o. Hu Mingyang 1981: 418, Paris (1981: 389, Li and Thompson 1981: 305, Lin William C. 1984: 220):¹⁷

- (56) *Nǐ wèn-le shéi (ne) ?*
2SG ask -PERF who FORCE
'(So) whom have you asked?'

- (57) *Tā dǒng bù dǒng wèntí (ne) ?*
3SG understand NEG understand problem FORCE
'(So) does he understand the problem?'

*Ne*₂ thus contrasts clearly with *ma* which is incompatible with *wh*-questions and A-not-A questions (cf. [52] above). Instead, *ne*₂ indicates that the question is not one asked "out of the blue", but is a "follow-up" (cf. Egerod 1994: 303) of the preceding (linguistic or extra-linguistic) context, as illustrated in (58) and (59):

- (58) *Nǐ dǒng le . [CP_{force}[TopP Nà [TP tā dǒng bù dǒng]] ne]?*
2SG understand CLOW then 3SG understand NEG understand FORCE
'You understand. (But) does he understand?'

- (59) *Wǒ yǐjīng wèn-le Zhāngsān. [CP_{force}[TopP Nà [TP nǐ wèn-le shéi] ne]?*
1SG already ask -PERF Zhangsan then 2SG ask -PERF who FORCE
'I have already asked Zhangsan. (So) whom have you asked?'

Given this "follow-up" character of questions with *ne*, they are often preceded by *nà(me)* 'then, in that case'.

*Ne*₂ clearly instantiates a Force head C₂, as witnessed by its co-occurrence with the low C *le* in the order '*le ne*₂' (the opposite order '*ne*₂ *le*' being excluded as expected):

- (60) *[CP_{force}[C_{low}P[TopP Nà [TP nǐ wèn shéi]] le] ne]?*
then 2SG ask who CLOW FORCE
'So whom have you asked?'

To summarize, *ne*₂ is a Force head indicating the 'follow-up' nature of the question at hand and selects interrogative sentences (*wh*-questions and *yes/no* questions in the 'A-not-A' form). *Ma*, by contrast, exclusively selects declarative TPs. In other words, while I adopt Zhu Dexi's classification of *ne*₂ as a force head, I do not agree with his analysis of this *ne*₂ as an interrogative SFP, where *ne*₂ itself bears an interrogative feature. Instead, the interrogative semantics is provided by the sentential complement of *ne*₂ which is a question (*wh*-question or A-not-A question) itself.

Accordingly a *yes/no* question cannot be construed by adding *ne* to a declarative sentence (irrespective of the rising or falling intonation). However, sentences such as (61b) seem to contradict this statement immediately:

¹⁶ For recent works challenging Cheng's (1991) *Clausal Typing Hypothesis*, cf. Bruening (2007) and Bruening and Tran (2006).

¹⁷ For a detailed discussion and rejection of Aoun and Li's (1993) claim that *wh*-questions always involve a null operator (as a covert version of *ne*), cf. Pan (2011b: ch. 2).

- (61) a. *Míngtiān nǐ kàn bù kàn diànyǐng? Bù xiǎng kàn.*
 tomorrow 2SG see NEG see film NEG want see
 ‘Tomorrow, do you want to go to the movies? No, I don’t want to.’
- b. *Rúguǒ fāngyìng “shàolín sì” ne?* Lu Jianming (1984: 105, [18])
 if project Shaolin temple TOP
 ‘And if they show the “Shaolin temple”?’

This is only a contradiction at first sight, though, because it is well-known that this type of example represents an elliptical structure where the comment sentence, itself a question, remains implicit and where only the topic followed by *ne* is overtly expressed (cf. Victor Junnan Pan 2011b: 87–93).¹⁸ In other words, (61b) is a (sentential) topic, i.e. a conditional clause occupying the topic position (i.e. Spec, TopP, cf. section 6.1 above), as becomes evident when the implicit comment is spelt out:

- (62) a. *Rúguǒ fāngyìng “shàolín sì” , nǐ kàn bù kàn (ne)?* (Lu Jianming 1984: 105, [18])
 if project Shaolin temple 2SG see NEG see FORCE
 If they show the “Shaolin temple”, do you want to see it or not?’
- b. *[_{TopP}[_{TP} Rúguǒ fāngyìng “shàolín sì”] [_{Top} ne] [_{TP} nǐ kàn bù kàn]] ?*
 if project Shaolin temple TOP 2SG see NEG see
 ‘If they show the “Shaolin temple”, do you want to see it or not?’

Importantly, unlike what Lu Jianming (1984) suggests in his complete paraphrase (62a) containing an optional *ne*₂, *ne* in the “truncated question” (cf. Li and Thompson 1981: 305) in (61b) is not the Force head *ne*₂, but the realization of Topic° (cf. Pan 2011b: 90), as witnessed by the well-formedness of (62b) and the acceptability of a comment in the form of a yes/no question with *ma* (cf. [63b], [64]):

- (63) a. *Zhè běn shū , nǐ yǐjīng kàn-guo le* (Pan 2011b: 91, [44b])
 this CL book 2SG already see -EXP CLOW
 ‘This book, you have already read.’
- b. *Nà běn shū ne (nǐ kàn guo ma)?*
 this CL book TOP 2SG see -EXP FORCE
 ‘And what about that book (have you read it)?’

- (64) *Xiǎo Lǐ qù-guo Àodàlìyà. Xiǎo Wáng ne (tā yě qù-guo ma)?*
 Xiao Li go-EXP Australia Xiao Wang TOP 3SG also go-EXP FORCE
 Xiao Li has been to Australia. And Xiao Wang (has he been there, too)?

This shows clearly that *ne* in the truncated question is not the force head *ne*₂, but the instantiation of Top° (*contra* Lu Jianming 1984).

This analysis is confirmed by the co-occurrence of the Top° *ne* with the force head *ne*₂ in the spelt out comment part:

- (65) *Wǒ yǐjīng wèn-le Zhāngsān. [_{CPforce}[_{TopP} Nǐ ne ([_{TP} nǐ wèn-le shéi]] ne])?*
 1SG already ask -PERF Zhangsan 2SG TOP 2SG ask -PERF who FORCE
 ‘I have already asked Zhangsan. And you (whom have you asked)?’ (cf. [59] above)

¹⁸ To be more precise, while there is a consensus about the elliptical nature of ‘XP *ne*?’ the identity of the original structure from which material has been elided is controversial. While for Lu Jianming (1984) the underlying structure is a *wh*-question or an A-not-A question with the force head *ne*₂ (cf. [62a] immediately below), for Wu Guo (2006) this type of truncated question (which he calls “thematic question”) represents a separate question type of its own. Victor Junnan Pan (2011b: 87–93) correctly rejects this latter view. Li and Thompson (1981:305) whose term “truncated question” I have borrowed here only illustrate it with one example, which they do not discuss any further.

Furthermore, the prosody of the truncated question ‘XP *ne*?’ is the same as that of a topic followed by *ne* in an ordinary declarative topic – comment sentence, i.e. either slightly rising or flat, but never falling (cf. Victor Junnan Pan 2011b: 93). In other words, the truncated question *Xiǎo Wáng ne* in (64) above has the same intonational contour as the topic DP *Xiǎo Wáng ne* in (66) below:

- (66) *Xiǎo Lǐ qù-guo Àodàlià. Xiǎo Wáng ne , tā hái méi qù-guo*
 XiaoLi go-EXP Australia Xiao Wang TOP 3SG still NEG go-EXP
 Xiao Li has been to Australia. Xiao Wang, he has not been there yet.’

Last, but not least, given the elliptical nature of the truncated question, it requires a preceding context allowing to retrieve the implicit comment and can therefore not be uttered “out of the blue”.¹⁹

7.2.2.3. The Force head *ba*_{Qconfirmation}: confirmation request or conjecture

A *yes/no* question with *ba*_{Qconfirmation} is not neutral, but implies the speaker’s expectation to receive a positive answer to her/his request:

- (67) *Nǐ xiànzài míngbái le ba ?* (Yang-Drocourt 2007: 312)
 2SG now understand CLOW FORCE
 ‘You understand now, don’t you?’
- (68) *Jīntiān xīngqīsān ba?* (Zhu Dexi 1982 : 211)
 today Wednesday FORCE
 ‘It is Wednesday today, correct?’

It is this component of confirmation request which explains why *ba*_{Qconfirmation} is incompatible with *wh* questions and *yes/no* question in the ‘A-not-A’ form, both being genuine information seeking questions.

- (69) **Shéi míngbái ba?*
 who understand FORCE
- (70) **Nǐ míngbái bù míngbái ba?*
 2SG understand NEG understand FORCE

Lü Shuxiang et al. (2000: 57) provide neat minimal pairs where either both *ba*_{Qconfirmation} and *ma* are possible (*modulo* the associated meaning differences) or where only *ba*_{Qconfirmation} is acceptable:

- (71) a. *Zhèi zuò fángzi shì xīn gài de ma?*
 this CL house be new build SUB FORCE
 ‘Is this house a new one?’
- b. *Zhèi zuò fángzi shì xīn gài de ba?*
 this CL house be new build SUB FORCE
 ‘This house is a new one, isn’t it?’

¹⁹ There is a general consensus in the literature that “out of the blue” sequences of the form ‘DP *ne*?’ are only apparent counterexamples (cf. a.o. Lu Jianming 1984: 108; Lü Shuxiang et al. 2000: 412):

(i) *Ài? Wǒ de yàoshi ne?* (Yang-Drocourt 2007: 312: [167])
 oh 1SG SUB key TOP
 ‘Oh? But my keys (where are they)?’

They also instantiate truncated questions, but with a fixed implicit comment sentence: ‘where is?’ This sharply contrasts with the multitude of possible comments to be restored for the standard truncated question with a preceding context as discussed above.

While (71a) with *ma* is a genuine request for information, this is not the case for (71b) with *ba*_{Qconfirmation}, where a positive answer is expected. Accordingly, only *ba*_{Qconfirmation}, but not *ma* is compatible with adverbs such as *dàgài* ‘probably’, *yěxǔ* ‘perhaps’, *shuōbùdìng* ‘possibly perhaps’:

- (72) *Tā dàgài yǐjīng zǒu -le ba /*ma?*
 3SG probably already leave-PERF FORCE/FORCE
 ‘She has already left, I guess?’
- (73) *Xiànzài shuōbùdìng jìngguò-le shí’èr diǎn le ba /*ma?*
 now perhaps pass -PERF 12 o’clock CLOW FORCE/FORCE
 ‘It might very well be past twelve o’clock now?’

When *ba*_{Qconfirmation} occurs with declarative sentences, its guessing, conjecturing component results in a weakening of the assertion (cf. Hu Mingyang 1981: 416):

- (74) *Nǐ tīngcuò-le ba*
 2SG mishear-PERF FORCE
 ‘You must have misheard.’

Last, but not least, sentences (68) and (73) above where *ba*_{Qconfirmation} follows the low C *le* confirms the status of *ba*_{Qconfirmation} as a Force head.

7.2.2.4. The Force head *ba*_{IMP}: advice or suggestion

The SFP *ba*_{IMP} is called “advisative” by Chao Yuen Ren (1968: 807) because of its “softening” effect. Accordingly, an imperative containing *ba*_{IMP} is understood as less harsh an order than the corresponding imperative sentence without *ba*_{IMP} (also cf. Hu Mingyang 1981: 416):

- (75) *Kuài diǎnr zǒu ba!* (Chao Yuen Ren 1968: 807)
 quick a.bit go FORCE
 ‘Better hurry up and go!’
- (76) *Bié chàng le ba!* (Hu Mingyang 1981: 416)
 NEG sing CLOW FORCE
 ‘Better stop singing.’

Again, the rigid ordering with respect to the low C *le* (cf. [76] above) and the Attitude head *ou* (cf. [77] below) confirms the status of *ba*_{IMP} as a Force head:

- (77) *Zǒu b’ou [= ba + ou]* (Zhu Dexi 1982: 208)
 go FORCE+ATT.fusion
 ‘You better go!’

Concerning the cases below where *ba*_{IMP} occurs with *wh*-questions and ‘A-not-A’ questions, Zhu Dexi (1982: 211) and Lü Shuxiang et al. (2000: 56) agree that these are in fact imperatives and reconstruct an elided *nǐ shuō* ‘you say...’. In other words, these examples are to be analysed as on a par with the explicit request in (78) where the verb *gàosù* ‘tell’ selects the question as its complement clause:

- (78) [_{ForceP}[_{TP} *Kuài gàosù wǒ* [_{TP} *tā shàng nǎr qù-le*]] *ba*]
 quick tell 1SG 3SG ascend where go-PERF FORCE
 Quickly, tell me where he has gone. (Lü Shuxiang et al. 2000: 56)
- (79) [_{ForceP} ([_{TP} *Nǐ shuō*) [_{TP}[_{TP} *zhèyàng zuò*] *xíng bù xíng*] *ba*]
 2SG say so do possible NEG possible FORCE
 ‘Is it ok to do it like this?’

Whether it is possible to unify the $ba_{Qconfirmation}$ requesting confirmation and the advisative ba_{IMP} is controversial, and must be left open here. Suffice it to point out that unlike Zhu Dexi (1982, ch. 15 and 16) and Lü Shuxiang et al. (2000) whom I have followed here in distinguishing two different SFP ba , Lu Jianming (1985: 244) is in favour of treating them as a single item. According to him, there is no intonational difference between $ba_{Qconfirmation}$ and ba_{IMP} and the different interpretations obtained rely solely on the context.

7.2.2.5. Interim summary

Though I have kept Rizzi's label *ForceP* for the second layer of C-elements above the low CP, only the SFP *ma* seems to really encode force, viz. interrogative force, turning a declarative clause into a *yes/no* question. The other C-elements are better characterized as "force-related" in the sense that they modulate the existing force of the sentence. For example, ne_2 indicates that the question at hand is a "follow-up" and must be seen as a continuation of the preceding context, and $ba_{Qconfirmation}$ encodes the speaker's expectation to obtain a positive answer to her/his question. Ba_{IMP} finally expresses the advisative character of the imperative at hand and distinguishes it from the corresponding non-mitigated order associated with the absence of ba_{IMP} .

7.2.3. AttitudeP: C_3 heads expressing speaker/hearer related dimensions

The SFP instantiating AttitudeP involve both speaker and hearer, via the speaker's assumptions concerning the beliefs of the hearer. Again, Chinese is not unique in this respect, given that e.g. Japanese (cf. Endo 2007: 175–198) as well as Romance and Germanic languages likewise display particles in the sentence periphery encoding properties of the speaker-hearer interaction. Examining Romanian and West-Flemish, Haegeman and Hill (to appear) postulate the projection DiscourseP, equivalent in function to AttitudeP in Chinese.²⁰ Importantly, the characteristics of SFP realizing DiscourseP established by Haegeman and Hill (to appear) also hold for AttitudeP SFP in Chinese.

First, AttitudeP does not concern nor affect the truth value of the proposition at hand. This contrasts with the SFP instantiating ForceP, where as we have seen $ba_{Qconfirmation}$ conveys the speaker's belief that the proposition is true, and *ma* is a request as to the truth value of the proposition (yes/no). It is correct that a SFP such as the advisative ba_{IMP} also conveys the speaker's (friendly) attitude, but at the same time this SFP is linked to a particular sentence type, i.e. the imperative. Furthermore, its status as Force head is confirmed by its obligatorily preceding Attitude SFP such as *ou* (cf. [77] above). As for low C, both *lázhe* 'recent past' and the intensifying *zhene* were shown to be incompatible with TP-internal negation, implying their selecting asserted situations only (cf. sections 7.2.1.1 and 7.2.1.4 above). Attitude SFP are thus fundamentally distinct from both low C and Force heads, an observation already made by Zhu (1982: 208), although not elaborated upon.

Second, Attitude SFPs indicate the speaker's commitment to the sentence content; they are interactional and imply the obligatory presence of a hearer (hence would be infelicitous in broadcasts).

Third, Attitude SFP are deictic, i.e. they are directly correlated with the speech act, but do not require a preceding utterance as "trigger" Last, but not least, Haegeman and Hill (to appear) concede that it is difficult to exactly determine the interpretive properties of Attitude SFP, even though their semantic import is clearly discernible when comparing sentences with and without them. This leads to the fourth characteristic, which is the optionality of Attitude heads.

Note that the following only presents a small selection of Attitude SFP, but representative enough to illustrate the type of semantics they contribute.

7.2.3.1. The Attitude head ne_3 and its counterpart *bàle*

After the low C ne_1 and the Force head ne_2 , there is also an Attitude head ne_3 expressing exaggeration or conveying a boasting tone (cf. Zhu Dexi 1982: 213):

²⁰ Since nothing is said about the C-elements heading the (lower) projections ForceP and low CP, I assume that neither Romanian nor West-Flemish have SFP realizing those two projections.

- (80) *Tā huì kāi fēijī ne!*
 3SG can drive airplane ATT
 ‘(Imagine) he can fly an airplane!’

Zhu (1982: 213) provides a neat minimal pair (a slightly changed version of which is given in [81] below) where *ne*₃ alternates with *bàle*, the latter being paraphrasable as ‘that’s all there is to it’ and having the effect of “downplaying”, which is exactly the opposite of the boasting tone mediated by *ne*₃:

- (81) a. *Tāmen yào wǔbǎi kuài qián ne! Bù shì ge xiǎo shù mù!*
 3SG want 500 CL money ATT NEG be CL small sum
 ‘They want (as much as) 500 dollars! That’s not a small sum!’
 b. *Tāmen yào wǔbǎi kuài qián bale! Méi yǒu shénme liǎobùqǐ!*
 3SG want 500 CL money ATT NEG have what extraordinary
 ‘They (only) want 500 dollars! That’s nothing extraordinary!’

The semantic import and the syntactic context of *ne*₃ is clearly different from that of both *ne*₁ and *ne*₂ and warrants its status as an Attitude head. (Recall that the Force head *ne*₂ requires a complement in the form of a *wh*-question or an ‘A-*bù*-A’ question, and that in certain cases the low C *ne*₁ is obligatory for sentences containing a verb suffixed by *-zhe*, unlike the always optional Force and Attitude heads *ne*₂ and *ne*₃; cf. section 7.2.1.3 above).²¹ This further confirms the non-unitary approach to *ne* adopted here, contrasting with the majority of proposals postulating a single *ne*. As already demonstrated for *ne*₁ and *ne*₂, a unifying analysis is excluded, because it simply cannot account for the different orders observed: the low C *ne*₁ must precede Force heads such as *ba*_{Qconfirmation} and *ma* (cf. [40] and [41] above), whereas the Force head *ne*₂ permutes with other Force heads and must follow low C such as *le* (cf. [60] above). In addition, the semantic characterization within a unifying analysis of *ne* fails as well. For example, according to Hu Mingyang (1981) and Wu Guo (2005), *ne* has the general function of “hearer engagement” and involves “negotiating the shared common ground” (Wu Guo 2005: 47)²². (As far as I can see, “hearer engagement” can qualify as a feature common to all Attitude SFP.). For William C.J. Lin (1984) and Constant (2011), all instances of *ne*, SFP and the head Top° alike, are said to involve contrastiveness, *modulo* the fact that for Constant (2011: 15) “the durative aspect marker *ne*_{ASP}”, i.e. *ne*₁ instantiates a second *ne*, because it cannot be analysed in terms of his “contrastive topic (CT) operator *ne*_{CT}”.

Again, this overall analysis of *ne* in terms of contrastive topic is not borne out by the data, neither by the instantiations of the different subprojections in the split CP (low CP, ForceP, AttitudeP) nor by the data for the topic head *ne*. Recall from section 7.2.2.2 that the Force head *ne*₂ indicates the “follow-up” character of the question at hand (as opposed to an “out of the blue” question), which cannot be subsumed under contrastiveness. Concerning the allegedly generalized contrastive value of Top° *ne*, a set of counterexamples that comes to mind immediately are adjuncts in TopP as illustrated in (82) (cf. section 6.1.2 above for more examples of this type):

²¹ Though for semantic reasons it is difficult to construe examples where *ne*₃ is preceded by a Force head, cases where *ne*₃ follows a low C are more easily obtained:

(i) [_{AttP}[_{TP} *Tā gāngcái hái zài zhèlǐ*] *lái*_{zhe}]*ne*! (Victor Junnan Pan 2012, ex. [23])
 3SG just still at here CLOW ATT
 ‘Look, he was still here a moment ago!’

The presence of *lái*_{zhe} excludes for *ne* to be a low C, and the non-interrogative nature of the sentence likewise rules out the analysis of *ne* as the Force head *ne*₂. *Ne* is therefore a realization of the Attitude head *ne*₃.

²² Note that from the outset Wu Guo (2005: 47–48) excludes *ne* in questions from his study and concentrates on *ne* in statements. The issue whether the *ne* in statements is the same *ne* as that in question is relegated to future research. Given this eliminating procedure, the scope of what he describes as the “general” function of *ne* turns out to be rather restricted. Also recall from section 7.2.1.3 that in certain syntactic contexts, the low C *ne*₁ (in declarative, non-interrogative contexts) is obligatory, another difference with respect to the Attitude head *ne*₃.

- (82) [_{CLOWP}[_{TOPP} *Qíshí ne* [_{TP} *tā hái zhùzài zhèr*]] *ne*]
 actually TOP 3SG still live here CLOW
 ‘In fact, he still lives here.’

The co-occurrence of the topic head *ne* with the low C *ne* in (82) presents another problem for a unifying analysis, given that both *ne* are claimed to be instantiations of the same category.²³

7.2.3.2. The Attitude head *ma* and its counterpart *ei*

The Attitude head *ma* (henceforth *ma_{Att}*) implies that the speaker presupposes the hearer *not* to be up to date and provides a correction of the hearer’s belief, conveying something like ‘this is self-evident’, ‘you should know’, ‘don’t you see?’ (cf. Chao Yuen Ren’s 1968: 801 term “dogmatic assertion”):

- (83) *Tā bù shì Lǎolǐ ma? Ràng tā jìnlái ma_{Att}* (Lü Shuxiang et al. 2000: 375)
 3SG NEG be Laoli FORCE let 3SG come.in ATT
 Isn’t that Laoli? Let him come in (Why do I have to tell you?).’
- (84) *Wǒ shuō jīntiān shì xīngqīsān ma_{Att}! Nǐ shuō bù shì!* (Zhu Dexi 1982: 213)
 1SG say today be Wednesday ATT 2SG say NEG be
 ‘I say it’s Wednesday today! You say it isn’t!’

The Attitude head *ma_{Att}* is clearly distinct from the Force head *ma* encoding *yes/no* questions, as generally acknowledged in the literature (cf. a.o. Chao Yuen Ren 1968: 800–801, Zhu Dexi 1982: 211–213, Lü Shuxiang et al. 2000: 375–376) and nicely illustrated by (83), where both SFP occur in successive sentences. This straightforwardly invalidates Li Boya (2006: 64–65) who postulates a single *ma* “mark[ing] a high degree of the strength of the assertive or directive force”.²⁴

The Attitude head *ei* is presented as counterpart of *ma_{Att}* by Zhu Dexi (1982: 213), insofar as with *ei*, the speaker assumes the other person to *be* up to date concerning the matter at hand, but nevertheless issues a reminder:

- (85) [_{CP} [_{TP} *Jīntiān xīngqīsān ei ! Nǐ bié wàngle xiàwǔ děi shàngkè]ei!]*
 today Wednesday SFP 2SG NEG forget afternoon must attend class SFP
 ‘Today is Wednesday (mind you)! Don’t forget you have classes in the afternoon!’
 (slightly changed example from Zhu Dexi 1982: 213)

7.2.3.3. The Attitude head *a*

To conclude the section on Attitude heads, I briefly discuss the SFP *a*. This SFP has rather complicated morphophonemics depending on the preceding word, which is often reflected in different transliterations: *ia*, *(u)a*, *(n)a*, *(ng)a* etc. (cf. Chao Yuen Ren 1968: 803, Zhu Dexi 1982: 212, Yang-Drocourt 2007: 192–195 for detailed discussion). For ease of exposition, I gloss over these phonological alternations and use the transliteration *a* throughout.

The SFP *a* is rather ubiquitous and occurs with all kinds of sentence types (declaratives, questions, imperatives, exclamatives), which makes its semantic characterization very difficult.

²³ Sentences such as (i) with both Top° *ne* and the Force head *ne₂* cannot be handled by the uniform analysis, either; note, though, that (i) was not judged acceptable by all of the native speakers consulted:

(i) [_{CP}_{force}[_{CLOWP}[_{TOPP} *Nǐ ne* [_{TP} *nǐ wèn shéi*] *le*] *ne*]?
 2SG TOP 2SG ask who CLOW FORCE
 ‘And you, whom have you asked?’

²⁴ Chao Yuen Ren (1968: 801) explicitly addresses the problem of Force head *ma* vs. Attitude head *ma* and notes the latter as *me*: “Because particles are in the neutral tone and unstressed, the low vowel *a* and the midvowel *e* are indistinguishable. However, in questions ending in *ma* [i.e. the Force head; WP], the sentence intonation is usually fairly high and ends in a slight drawl. It is therefore distinguishable from P5 *me* [i.e. the Attitude head; WP] below, which is always short.” Since the native speakers consulted pronounced the Attitude head as *ma*, I do not follow Chao Yuen Ren here, but note it as *ma_{Att}*.

Scholars agree that *a* conveys the personal implication of the speaker and has a general softening effect; the different interpretations observed for *a* are then due to the different sentence types it combines with (cf. a.o. Chao Yuen Ren 1968: 803–806; Zhu Dexi 1982: 212, Li and Thompson 1981: 313–317, Beutel 1988). For example, Chao Yuen Ren (1968: 804) observes that a question with the SFP *a* is less blunt than one without it, an effect which can be paraphrased as ‘by the way’ or ‘excuse me’ etc.

- (86) *Nǐ míngtiān chūqù bù chūqù a?*
 2SG tomorrow go.out NEG go.out ATT
 ‘(By the way) are you going out tomorrow?’

Likewise, an imperative with the SFP *a* has less the flavour of a command than an imperative without it (though according to Chao Yuen Ren [1968: 804] the softening effect with *a* is less strong than with the advisative *ba_{IMP}* discussed in section 7.2.2.4 above):

- (87) *Shuō a , bié hàipà a!*
 say ATT NEG be.afraid ATT
 ‘Say it, don’t be afraid!’

In an exclamative, *a* expresses the emotion of the speaker which depending on the sentence meaning can be anger, astonishment, enthusiasm etc.:

- (88) *Nǐ kan a , biànhuà duō dà a!* (Yang-Drocourt 2007: 311)
 2SG see ATT change much big ATT
 Look, how much everything has changed!

7.2.4. Summary and synoptic table of the split CP in Chinese

The preceding sections have provided extensive evidence for the existence of a three-layered CP in Chinese: TP < low CP < ForceP < AttitudeP.

(89) The three classes of root complementisers (selection)

C ₁ (low C)	C ₂ (Force)	C ₃ (Attitude)
<i>le</i> currently relevant state	<i>ba_{IMP}</i> (advisative <i>ba</i>)	<i>a</i> softening
<i>láizhe</i> recent past	<i>ba_{Oconfirmation}</i>	<i>bàle</i> understatement
<i>ne₁</i> continuing situation	<i>ma</i> yes/no question	<i>ei</i> gentle reminder
<i>zhene</i> intensifier	<i>ne₂</i> follow-up question	<i>ma</i> dogmatic assertion
.....	<i>ne₃</i> exaggeration
		<i>ou</i> impatience
	

N.B. The semantic values indicated for each SFP can give a rough approximation only.

The strict ordering observed by Zhu Dexi (1982, ch. 16) for the three classes of SFP can be easily recast as a split CP à la Rizzi, *modulo* the addition of the projection AttitudeP above ForceP. Importantly, studies on Romance and Germanic languages within Rizzi’s split CP approach independently argue for the necessity of such a speaker/hearer related projection absent from Rizzi’s original hierarchy.

SFP are clearly heads, because they impose selectional restrictions on their clausal complement (such as declarative or interrogative sentence type). In the case of low C, the acceptability of a given TP as complement also depends on the properties of the extended verbal projection such as its aktionsart and the presence/absence of SFP

The detailed study of *ne* has illustrated several problems encountered in the analysis of SFP in general, among them the homophony between C-elements instantiating different projections and the homophony between a C-element and the realization of Top°. As a result, four different *ne* have to be identified, viz. the low C *ne*₁, the Force head *ne*₂ and the Attitude *ne*₃, on the one hand, and the head of Topic Phrase *ne*, on the other. Likewise, there are two SFP *ma* realizing ForceP or AttitudeP, respectively. Homophony between a C-element and a Top° is not restricted to *ne*, either, but e.g. also holds for *le*, *ma* and *a* (cf. a.o. Chao Yuen Ren 1968: 796, §8.5.2; Lü Shuxiang et al. 2000: 358, 376). Last, but not least, SFP such as *ba*_{IMP} and *ba*_{Qconfirmation} reveal another difficulty, namely the homophony between SFP belonging to the same projection, in this case ForceP.

The decision to be made for homophonous items is further complicated by the interaction between the SFP, the sentence meaning itself, the sentence intonation and the context, all of which contribute to the interpretation obtained. As a consequence, it is not always easy to pin down the meaning component provided by the SFP itself. Besides, the use of SFP, especially those realizing AttitudeP, is also subject to individual and regional differences which still remain to be elucidated.

These caveats notwithstanding, it is evident that SFP are an integral part of the syntax and as such subject to syntactic constraints, the most visible being the hierarchy of the different projections reflected in the rigid order ‘TP < low CP < ForceP < AttitudeP’.

7.3. The root vs. non-root asymmetry in the Chinese complementiser system

So far I have limited myself to examining SFP in matrix sentences, i.e. root contexts. Accordingly, the three-layered split CP ‘TP < low CP < ForceP < AttitudeP’ holds for root contexts only. This is important because – as to be discussed in the present section – most C-elements in Chinese are barred from embedded, non-root contexts. More precisely, only low C may under certain circumstances occur in embedded contexts, whereas Force and Attitude heads are completely excluded here and acceptable in root contexts only. In addition, Chinese also has exclusively non-root C, viz. *dehuà* in conditional clauses and *de* in the propositional assertion construction (cf. Paul and Whitman 2008). Note that the literature on the Chinese C-system (from Lisa Lai-Shen Cheng 1991 up to the more recent studies by Li Boya 2006, Xiong Zhongru 2007, Hsieh & Sybesma 2008, Huang, Li and Li 2009: 34–35, among others) has so far not acknowledged the *systematic* character of the root/non-root asymmetry and has at best stated the root-only distribution as the idiosyncrasy of individual SFP, as in the case of the Force heads *ma* (cf. Li & Thompson 1981:557, Tang Ting-chi 1988: 363ff) and *ne* (cf. Cheng Lisa Lai-Shen 1991, Y.-H. Audrey Li 1992:153).

7.3.1. Root-only complementisers

As noted by Li & Thompson (1981:556-7) and (Tang Ting-chi 1988:363), the *yes/no* question particle *ma* cannot be part of an embedded clause, but must always be construed as belonging to the matrix sentence. This is straightforward in (90a): a sentential subject cannot contain *ma*; instead, the ‘A-not-A’ question form must be used here (cf. [90b]):

- (90) a. *_{TP} [_{ForceP} [_{TP} *Ākiū lái*] *ma*] *méi yǒu guānxi*
 Akiu come FORCE NEG have relation

- b. [_{TP} [_{TP} *Ākiū lái bù lái*] *méi yǒu guānxi*]
 Akiu come NEG come NEG have relation
 ‘Whether or not Akiu comes doesn’t matter.’

By contrast, in (91a), where the final position of the root clause coincides with the final position of the clausal complement, this ‘root only’ constraint must be deduced from the interpretational possibilities. In (91a), *ma* can only question the root clause, not the clausal complement. In the case of an

interrogative clause as complement (cf. [91b]), again only the ‘A-not-A’ question is acceptable (cf. [91b]).²⁵

- (91) a. $[_{ForceP}[_{TP} Tā\ bù\ zhīdao\ [_{TP} Ākiū\ lái\]]\ ma\]?$
 3SG NEG know Akiu come FORCE
 ‘Doesn’t she know that Akiu is coming?’
 [Excluded: ‘She doesn’t know whether or not Akiu is coming.’]
 (cf. Li & Thompson 1981:557; Tang Ting-chi 1988:365)
- b. $[_{TP} Tā\ bù\ zhīdao\ [_{TP} Ākiū\ lái\ bù\ lái]]$
 3SG NEG know Akiu come NEG come
 ‘She doesn’t know whether Akiu is coming or not.’

The same root-only constraint holds for other Force heads such as *ne*₂ (cf. Tang Ting-chi 1988: 363) and for Attitude heads:

- (92) $[_{TP} [_{TP} Ākiū\ lái\ bù\ lái\ (*ne)]\ méi\ yǒu\ guānxi]$
 Akiu come NEG come FORCE NEG have relation
 ‘Whether or not Akiu comes doesn’t matter.’
- (93) a. $Wǒmen\ yīqǐ\ qù\ ba_{IMP}$
 1PL together go FORCE
 ‘Let’s go there together.’
- b. $Wǒmen\ yīqǐ\ qù\ (*ba_{IMP})\ de\ yīyuàn\ bù\ yuǎn$ (Pan 2012: 9, [46])
 1PL together go FORCE SUB hospital NEG far
 ‘The hospital where we went together is not far.’
- (94) $[_{TP}[_{TP} Jīntiān\ xīngqītiān\ (*bale)]\ méi\ yǒu\ guānxi],\ nǐ\ hái\ shì\ yào\ xuéxī$
 today Sunday ATT NEG have relation 2SG still must study
 ‘It doesn’t matter that it’s Sunday today, you have to study anyway.’

The unacceptability of Force heads points to the lack of the relevant projection in embedded contexts, because an interrogative sentence *per se* is not excluded as evidenced by the well formedness of sentential subjects and clausal complements with A-*bù*-A questions. *A fortiori*, there can be no projection AttitudeP, either; in addition, embedded contexts seem to be semantically incompatible with speaker and hearer-related dimensions conveyed by Attitude heads, such as the downplaying effect associated with *bale* in (94).

7.3.2. Low C in root and non-root contexts

The situation for low C is somewhat more complicated. Let us first look at the set of examples where low C *are* acceptable in embedded contexts such as relative clauses, noun complement clauses and sentential subjects:

- (95) $[_{DP}[_{C_{lowP}}[_{TP} Gāngcái\ dǎ\ diànhuà]\ láizhe]\ de\ rén\]\ dàodǐ\ shì\ shéi?$
 just strike phone CLOW SUB person in.fact be who
 ‘Who the hell was the person that called just now?’ (Pan 2012, ex. [41])
- (96) $[_{TP} Nǐ\ wèishénme\ méi\ gàosù\ wǒ\ [_{C_{lowP}}[_{TP} tā\ bù\ qù\ Àodàlìyà]\ le\]]?]$
 2SG why NEG tell 1SG 3SG NEG go Australia CLOW

²⁵ The root-only constraint for *ma* as Force head sheds doubt on Aldrige (2011) who postulates an embedded position as diachronic source for *ma*. Against the backdrop of the *Conservancy of Structure Constraint* (cf. Whitman 2000, Whitman and Paul 2005), which requires the conservation of the original hierarchical c-command relations in the output structure, this is an impossible diachronic scenario.

‘Why didn’t you tell me that she no longer wants to go to Australia?’

- (97) $[_{TP} [_{CLOWP} [_{TP} Tā\ bù\ qù\ Àodàlìyà\ le\]]\ bù\ suàn\ shénme\ xīnwén]$
 3SG NEG go Australia CLOW NEG count what news
 ‘That she no longer wants to go to Australia is no real news.’

Note that without *le*, we would obtain a different interpretation for the embedded clause in (96) and (97), namely ‘that he doesn’t want to go to Australia’. This is important, because the low *C le* seems to be excluded from embedded contexts when its presence/absence does *not* induce a difference in meaning:

- (98) a. $[_{DP} [_{TP} Zuótiān\ chī\ yúròu\ (*le)]\ de\ rén\]\ dōu\ bìng-le.$
 yesterday eat fish CLOW SUB person all ill -PERF
 ‘The people who ate fish yesterday are all sick.’
 (slightly changed example [29] from Ross 1983:235)
- b. $[_{CLOWP} [_{TP} Wǒmen\ zuótiān\ chī\ yúròu]\ le\]$
 1PL yesterday eat fish CLOW
 ‘We ate fish yesterday.’
- (99) a. $[_{DP} [_{TP} Bālí\ xià\ xuě\ (*le)]\ de\ xiāoxi].$
 Paris fall snow CLOW SUB news
 ‘the news that it is snowing in Paris’
- b. $[_{CLOWP} [_{TP} Bālí\ xià\ xuě]\ le\]$
 Paris fall snow CLOW
 ‘It is snowing in Paris.’

This observation allows us to reconcile Ross’s (1983) observation concerning the unacceptability of the low *C le* in relative clauses with the data in (95) – (97); in Ross’s example (98a), *le* precisely does not induce any meaning difference.

Note in this context that Chinese lacks a *C* comparable to *that* in English heading clausal complements of verbs (cf. [100], [101]) and sentential subjects (102) (also cf. [96] and [97] above):²⁶

- (100) $Tā\ gāngcái\ gàosu\ wǒ\ [Ākiū\ yǐjīng\ zǒu\ -le\]$
 3SG just tell 1SG Akiu already leave-PERF
 ‘He just told me *that* Akiu already left.’

²⁶ This contrasts with the claim often encountered in the literature that a grammaticalized form of the verb *shuō* ‘speak’ instantiates such a complementiser (cf. Fang Mei 2006, Hsieh & Sybesma 2008 among many others):

(i) $Wǒ\ zǒngshì\ juéde\ shuō,\ shēnghuó\ lǐ\ quē-le\ diǎn\ shénme$ (Fang Mei 2006: 109, [1])
 1SG always feel SHUO life in miss-PERF a.bit something
 ‘I have always had the feeling that something is missing in my life.’

However, if *shuō* were really a complementiser, it would be expected to form a constituent with its following TP complement and remain as a block in the case of an afterthought construction, a prediction not borne out by the data. It is likewise impossible for *shuō* to follow the verb in (ii):

(ii) $[(*Shuō)\ shēnghuó\ lǐ\ quē-le\ diǎn\ shénme],\ wǒ\ zǒngshì\ juéde\ (*shuō)$
 SHUO life in miss-PERF a.bit something 1SG always feel SHUO

‘That something is missing in my life, I have always thought so.’

Also note that a pause (indicated by a comma by Fang Mei herself) is natural after *shuō* in (i), but not between *shuō* and the preceding verb. Last, but not least, in the Chinese literature, none of the numerous papers on *shuō* or its equivalent in other Sinitic languages has ever provided well-formed examples where this alleged complementiser *shuō* heads a sentential subject:

(iii) $(*Shuō)\ shēnghuó\ lǐ\ quē\ -le\ diǎn\ shénme\]\ zhēn\ kěxì$
 SHUO life in miss-PERF a.bit something really pity
 ‘That something is missing in my life is really a pity.’

- (101) Tā shuō [Ākiū dé -le jiǎng].
 3SG say Akiu obtain-PERF award
 ‘She told me that Akiu had won a prize.’
- (102) [Ākiū dé -le jiǎng] shǐ wǒmen tè bié gāoxìng.
 Akiu obtain-PERF award make 1PL particularly happy
 ‘The fact *that* Akiu won a prize made us very happy.’

7.3.3. The exclusively non-root C *de* and *dehuà*

The issue of exclusively non-root C has not received any attention in the literature, which is not surprising insofar as the fundamental character of the root vs. non-root asymmetry in the Chinese C system has not been acknowledged, either. It is correct that Lisa L.-S. Cheng (1986) proposed an analysis of the subordinator *de* in relative clauses as C. However, she did not relate this claim to the C status of SFP in general, and accordingly did not discuss at all the root/non-root character of the alleged C *de*. Nor did she provide arguments for the C status of *de*, but took it for granted on the basis of its analysis as C in C.-T. James Huang (1982)²⁷. As a matter of fact, Lisa L.-S. Cheng (1986: 319) had to admit the “non-selective” nature of *de* in order to maintain her C-analysis for *de*, given that not only relative or complement clauses, but any kind of modifier XP (NP, DP, QP, AdpositionP, AdjectiveP) is compatible with *de*: ‘XP *de* NP’ (cf. chapter 5.2.3 above).²⁸ Since upon careful analysis *de* turns out *not* to be a C, but the instantiation of different heads in the extended nominal projection, among them light *n* and D (cf. Paul 2012; to appear [b]), it is not discussed here any further.²⁹

7.3.3.1. The exclusively non-root C *de*

One of the two non-root C identified so far is the *de* in the so-called *propositional assertion construction* (cf. Paul and Whitman 2008): the copula *shì* ‘be’ selects a complement headed by *de* which in turn takes as its complement a non-finite TP, in other words, *de* is obligatory here. As indicated by the addition of ‘it is the case that...’ in translation, this construction is used in order to strengthen the assertion of the sentence as a whole:

- (103) Wǒ shì [_{CP(-root)} [_{t_i} cónglái bù chōu yān] *de*]
 1SG be ever NEG inhale smoke C(-root)
 ‘(It is the case that) I have never smoked.’
- (104) Tā shì [_{CP(-root)} [_{t_i} yīdìng huì [_{PP} duì nǐ] hǎo yī bèizi] *de*]
 3SG be certainly will towards 2SG good 1 generation C(-root)
 ‘(It is the case that) he will certainly be good to you for an entire lifetime.’

²⁷ Lisa L.-S. Cheng (1986: 316) mentions C.-T. James Huang’s (1982) thesis without giving any more precise reference. Upon perusal, one finds two places where potential C-elements in Chinese are discussed. In chapter 2.5.2.1 (pp. 85–86), C.-T. James Huang (1982) evokes C status for the *de* with relative clauses, *modulo* its existence on the level of PF (phonetic form) only, thus not interacting with processes in syntax or LF (logical form). He furthermore proposes as null hypothesis that “every clause may be headed initially by a COMP in Syntax and LF, whether that COMP has lexical content [or not]” (p. 86). Sentential subjects in Chinese illustrate a case of a covert COMP (chapter 6.1, p. 460). Recall that SFP are not examined in C.-T. James Huang (1982).

²⁸ Lisa L.-S. Cheng (1986:319), states that “a complementizer, being a head, may or may not select a particular type of complement or specifier. English is an example of a complementizer selecting only I’ as its complement. [...] *de*, if it is a complementizer in Mandarin, places no restrictions on the category of its complement.”. She contents herself with this reformulation of the facts and does not pursue the issue any further.

²⁹ In contrast to the head-final CP, *de* projects a head-initial phrase DeP, selecting the NP to its right as its complement and hosting the modifier XP in its specifier: [_{DeP} XP [_{De} *de* NP]]. While in Chinese the different heads in the extended nominal projection are all spelt out as *de*, English realizes them as different items, i.e. *of* and the so-called possessive ‘s. As pointed out by Whitman (2001; p.c.), the English possessive ‘s and *de* have in common to depend phonologically on the XP in their specifier, which in the case of *de* has often been mistaken as reflecting syntactic constituency.

(= example [C] from Li, Thompson, and Zhang 1998: 94; bracketing supplied)

- (105) $[_{TopP}[_{DP} \text{Zhèi ge dōngxī}] [_{TP} \text{tā}_i \text{ shì } [_{CP(-root)}[\text{t}_i \text{ yīnggāi bān -de -dòng t}_{DP}] \text{ de}]]]$ ³⁰
 this CL thing 3SG be ought remove-able-move C(-root)
 ‘This thing, he should indeed be able to move it.’

The non-finite character of the TP selected by the non-root C *de* is evidenced by the obligatory raising of the subject to the matrix subject position, i.e. preceding the copula *shì*, as indicated in (103) – (105). Furthermore, topicalization of a phrase from the non-root CP in the propositional assertion construction is possible as well (cf. [105], [106]). This clearly contrasts with the non-extractability from a relative clause (cf. [107b]), irrespective of the presence or absence of the NP-complement of *de*, here *rén* ‘person’ (For further discussion, cf. Paul & Whitman 2008: section 6.3). These differences in extraction nicely confirm the analysis of *de* in the nominal projection ‘XP *de* NP’ as a nominal head, not a non-root C:

- (106) $[_{TopP}[_{PP} \text{Duì nǐ}] [_{TP} \text{tā shì } [_{CP(-root)}[\text{yīdìng huì t}_{PP} \text{ hǎo yī bèizi }] \text{ de }]]]$.
 towards 2SG 3SG be certainly will be.good 1 generation C(-root)
 ‘(It is the case that) he will certainly be good to you for an entire lifetime.’
- (107) a. $\text{Tā hèn } [_{DP}[_{TP} \emptyset_i [_{PP} \text{duì nǐ}] \text{ huì hǎo yī bèizi }] \text{ de } (\text{rén}_i)]$
 3SG hate towards 2SG will be.good 1 lifetime SUB person
 ‘He hates people/those who will be good to you for an entire lifetime.’
- b. $*[_{TopP}[_{PP} \text{Duì nǐ}] [_{TP} \text{tā hèn } [_{DP}[_{TP} \emptyset_i \text{ huì t}_{PP} \text{ hǎo yī bèizi de }] (\text{rén})]]]$
 towards 2SG 3SG hate will be.good 1-lifetime SUB person
 (*‘[To you]_i, he hates people/those who will be good t_i an entire lifetime.’)

Analysing *de* in the *propositional assertion* construction as the head of the projection selected by the matrix verb *shì* ‘be’ allows us to correctly predict the unacceptability of SFPs within DeP (cf. [108]). Being the clausal complement of the matrix verb *shì* ‘be’, DeP represents an embedded context, whence the ban on SFP. This ban is absolute due to the presence of a non-root C.

- (108) $[_{TopP} [\text{Zhèi ge dōngxī}]_j [_{TP} \text{tā}_i \text{ shì } [_{CP(-root)} [\text{t}_i \text{ yīnggāi bān -de -dòng t}_j \text{ (*le)}] \text{ de}]]]$
 this CL thing 3SG be ought remove-able-move CLOW C(-root)
 ‘This thing, he should indeed be able to move it.’

Once we acknowledge that *de* in the propositional assertion construction heads the complement embedded under the matrix verb, we can account for the co-occurrence of this non-root C *de* with a low root C (e.g. *le*) construed with the matrix clause, resulting in the order *de le*:

- (109) $[_{CLOWP}[_{TP} \text{Wèntí xiànzài shì } [_{C(-root)} \text{t}_i \text{ néng jiějué de }]] \text{ le}]$
 problem now be can solve C(-root) CLOW
 ‘The problem can certainly be solved now.’
- (110) $[_{CLOWP}[_{TopP} [\text{Zhèi ge dōngxī}] [_{TP} \text{tā shì } [_{C(-root)} [\text{yīnggāi bān -de -dòng}] \text{ de }]] \text{ le }]]$
 this CL thing 3SG be ought remove-able-move C(-root) CLOW
 ‘This thing, he should indeed be able to move it.’

The co-occurrence of the low C *le* with *de* would not be possible if *de* were a low root C on a par with *le* and likewise construed with the matrix clause, because SFP instantiating the same projection are in

³⁰ As can be seen from the gloss ‘able’, the *de* in the verbal compound *bān-de-dòng* ‘be able to move’ is a completely different word, not to be mistaken for the non-root C *de*.

a paradigmatic relation to each other and mutually exclusive (cf. [89] in section 7.2.4 above).³¹ Given that *le* instantiates the lowest C projection within the split CP, it cannot be preceded by another root C.

7.3.3.2. The exclusively non-root C *dehuà*

Dehuà heading conditional clauses is another non-root C. Recall from chapter 6.1.1 above that conditional clauses are analysed as clausal topics located in Spec, TopP:

- (111) [_{ClowP}[_{TopP}[_{C(-root)} *Ākiū jīntiān líkai Běijīng (*le) dehuà*]
Akiu today leave Beijing CLOW C(-root)

[_{TP} *tā hěn kuài jiù yào dào*]] *le*]
3SG very fast then will arrive CLOW

‘If Akiu has left Beijing today, then he should be here very soon.’

- (112) [_{TopP}[_{CP(-root)} [*Rúguǒ xià yǔ (*le)*]] *dehuà*] [_{TP} *wǒ jiù bù qù*]]
if fall rain CLOW C(-root) 1SG then NEG go

‘If it rains, then I won’t go.’

Again, no SFP are allowed within the projection headed by *dehuà*, exactly as in the case of the projections headed by *de* in the propositional assertion construction.

The analysis of *dehuà* as a non-root C is confirmed by its behaviour in so-called “afterthought construction” (cf. Chao Yuen Ren 1968: 132; Lu Jianming 1980).³² The constituent representing the “afterthought” part must be adjoined to the entire sentence including the (split) CP, i.e. to the right of the Force head *ma* in (113a):

- (113) a. [_{ForceP} *Lái -le ma*], *nǐ gēge (*ma)?* (Lu Jianming 1980: 28)
come-PERF FORCE 2SG brother FORCE
‘Has he come, your brother?’

- b. [_{ForceP}[_{TP} *Nǐ gēge lái -le*] *ma*]?
2SG brother come-PERF FORCE
‘Has your brother come?’

When the clause headed by *dehuà* plays the role of such an afterthought (cf. [114b]), crucially, *dehuà* is retained, confirming that *rúguǒ tā lái dehuà* forms a constituent (CP):³³

- (114) a. [_{ClowP}[_{TopP}[_{CP(-root)} *Rúguǒ tā lái dehuà*]] [_{TP} *wǒ jiù bù cānjiā huìyì*]] *le*]
if 3SG come C(-root) 1SG then NEG attend meeting CLOW
‘If he comes, then I won’t attend the meeting.’

³¹ Interestingly, hardly any of the numerous studies on SFP discusses sentence-final *de* in the propositional assertion construction; this can be interpreted as reflecting an intuitive awareness of the fundamental difference between the exclusively non-root *de* and the other SFP. Hu Mingyang (1981: 347–348) is among the very few to include *de*. He considers it an innermost SFP on a par with *le*; these two SFP are said to differ from the other SFP insofar as they cannot be “split off” the sentence, which might be intended to reflect the obligatory character of *de*. Xiong Zhongru 2007 simply assumes *de* to instantiate another, fourth class of *root* C below Zhu Dexi’s (1982) innermost SFP such as *le* and *laizhe*.

³² As observed by Chao Yuen Ren (1968: 132), the afterthought part is likely to be read in a faster tempo, the preceding part constituting the main clause.

³³ Incidentally, the unacceptability of the adverb *jiù* ‘then’ in the main clause in (114b), repeated in (i), argues against a derivation of the afterthought construction via right dislocation and confirms the adjunction-to-CP-analysis proposed here. (For further discussion, cf. Gasde & Paul 1996, Paul 2009.)

(i) *Wǒ (*jiù) bù cānjiā huìyì le , rúguǒ tā lái dehuà*
1SG then NEG attend meeting CLOW if 3SG come C(-root)
‘I won’t attend the meeting, if he comes.’

- b. [_{CLOWP}[_{TP} Wǒ bù cānjiā huìyì] le] [_{CP(-root)} rúguǒ tā lái dehuà]
 1SG NEG attend meeting CLOW if 3SG come C(-root)
 ‘I won’t attend the meeting, if he comes.’

The non-root C *dehuà* must therefore be distinguished from particles optionally heading TopicP such as *ne*:³⁴

- (115) a. [_{TOPP} Quèshí [_{TOP} [_{TOP°} ne] [_{TP} tā de nénglì shì bǐ wǒ qiáng]]]
 indeed TOP 3SG SUB ability be compared.with 1SG strong
 ‘Indeed, his abilities *are* greater than mine.’
- b. [_{TP} Tā de nénglì shì bǐ wǒ qiáng]], quèshí (*ne)
 3SG SUB ability be compared.with 1SG strong indeed TOP
 ‘His abilities *are* greater than mine, indeed.’

A particle such as *ne* instantiating the head *Topic* selects a TP-complement to its right (or another TopP, giving rise to multiple topics), whence the observed unacceptability of these topic particles in the afterthought part.

This analysis is confirmed by the co-occurrence of *dehuà* with a Top°, which would be impossible if *dehuà* were a Top° itself, because a topic XP can only be followed by one particle realizing Top° at a time. In the case of two successive heads Top° and only one topic XP, a conflict would arise between the two heads as to which one projects, i.e. hosts the topic in its specifier and selects the TP-complement to its right.

- (116) a. [_{TOPP}[_{C(-root)} [_{Yàoshì xià yǔ}] dehuà] [_{TOP} [_{TOP°} ne] [_{TP} wǒ jiù bù qù]]]
 if fall rain C(-root) TOP 1SG then NEG go
 ‘If it rains, I won’t go.’
- b. Wǒ bù qù, [_{C(-root)} [_{yàoshì xià yǔ}] dehuà] (*ne)
 1SG NEG go if fall rain C(-root) TOP
 ‘I won’t go, if it rains.’

Incidentally, examples of this type again challenge the overall contrastive value postulated for *ne* by William C. Lin (1984) and Constant (2011).

Last, but not least, note that extraction from the clausal complement of *dehuà* is possible:

- (117) a. [_{TOPP}[_{CP(-root)}[_{TP} Nǐ [_{PP} duì Lǐsì] yǒu yìjiàn] dehuà]
 2SG towards Lisi have prejudice C(-root)
- [_{TOPP} nà [_{TP} wǒmen bīxū zhǎo lìngwài yī ge rén]]]
 then 1PL need search else 1 CL person
 ‘If you are prejudiced against Lisi, then we need to look for somebody else.’
- b. [_{TOPP}[_{CP(-root)}[_{TOPP} [_{PP} Duì Lǐsì] [_{TP} nǐ t_{PP} yǒu yìjiàn]]] dehuà]
 towards Lisi 2SG have prejudice C(-root)
- [_{TOPP} nà [_{TP} wǒmen bīxū zhǎo lìngwài yī ge rén]]]
 then 1PL need search else 1 CL person
 ‘If you are prejudiced against Lisi, then we need to look for somebody else.’

³⁴ Recall from section 7.2.2.2. above that the topic head *ne* and the Force head *ne* are two items with a distinct categorial status, as witnessed by their co-occurrence in the same sentence.

Dehuà is thus on a par with the non-root C *de* in the propositional assertion construction where extraction is also allowed (cf. [106] above).³⁵

To summarize, this section has introduced the so far neglected, exclusively non-root C *de* and *dehuà*. They contrast with the other C heads, which are limited to root contexts, except for low C, which are acceptable in both root and non-root contexts. Crucially, low C are only allowed in the absence of a non-root C; as soon as either *de* or *dehuà* are present, no other C is allowed. In other words, non-root contexts do not display a split CP, but have a one-layer CP only, as opposed to the three-layered split CP in root contexts. This furthermore illustrates the fundamental root vs. non-root asymmetry at work in the Chinese C system.

7.4. The hierarchical relations between TopP and the three subprojections headed by SFP

So far, I have put aside the question of how the three-layered split CP established for SFP *qua* heads interacts with the hierarchy obtained in the sentence periphery for the projections TopP and ‘even’ FocusP hosting the relevant XPs in their specifiers: TopP > ‘even’ FocP > TP (cf. chapter 6.4 above).

Let us first determine the relative hierarchy between low C and TopP. The fact that the low C (*láizhe*, *le*, *ne*) are incompatible with certain temporal adverbs, both when inside TP, shows that the low C must scope over them in both cases. We thus obtain the hierarchy: Clow > TopP:

- (118) a. [_{ClowP}[_{TP} *Tā zhōngyú/*míngtiān dǎsǎofángjiān*] *le*]
 3SG finally / tomorrow clean room CLOW
 ‘He finally started cleaning the room.’
- b. [_{ClowP}[_{TopP} *Zhōngyú/*míngtiān* [_{TP} *tā dǎsǎofángjiān*]] *le*]
 finally / tomorrow 3SG clean room CLOW
 ‘Finally, he started cleaning the room.’
- (119) [_{ClowP}[_{TopP} (*Xiànzài/*míngtiān*) [_{TP} *tā (xiànzài/*míngtiān) dǎsǎofángjiān*]] *ne*]
 now tomorrow 3SG now / tomorrow clean room CLOW
 ‘He’s cleaning the room right now.’
- (120) [_{ClowP}[_{TopP} (*Gāngcái/*míngtiān*) [_{TP} *tā (gāngcái/*míngtiān) dǎsǎofángjiān*]] *láizhe*]
 just / tomorrow 3SG just / tomorrow clean room CLOW
 ‘He just cleaned the room.’

Given the hierarchy ‘TP < low C < ForceP < AttitudeP’, Force is expected to be higher than, i.e. have scope over TopP as well: ForceP > TopP. This prediction is confirmed by the incompatibility of Discourse-linked *wh*-phrases with the Force head *ma*; again, this holds for D-linked *wh*-phrases both inside TP (cf. [12] and [122]) and in TopP above TP (cf. [123] and [124]). D-linked *wh*-phrases are used here, because in contrast to “plain” *wh*-phrases such as *shéi* ‘who’, *shénme* ‘what’, they are also acceptable in TopP (cf. the discussion in section 6.1.1 above).

- (121) [_{ForceP}[_{TP} *Tā mǎi-le nǎ jiàn yīfu*] (**ma*)] ?
 3SG buy-PERF which CL dress FORCE
 ‘Which dress did he buy?’

³⁵ Both *dehuà* and *de* thus contrast sharply with the subordinator *de* in the nominal projection; as illustrated in (ii), extraction from relative clauses is barred (irrespective of the presence/absence of the NP-complement of *de*, i.e. *huà* ‘words’):

- (i) *Wǒ méi tīngdào [DeP[TP *tā duì nǐ shuō*] [De’ *de* ([NP *huà*]])]*
 1SG NEG hear 3SG towards 2SG say SUB word
 ‘I haven’t heard the words he spoke to you/what he said to you.’
- (ii) **[TopP[PP *Duì nǐ*] [TP *wǒ méi tīngdào [DeP[TP *tā tPP shuō*] [De’ *de* ([NP *huà*]])]]]*
 towards 2SG 1SG NEG hear 3SG say SUB word*

- (122) $[_{ForceP[TP} \text{ Nǎ jiàn yīfu zuì guì }] (*ma)]?$
 which CL dress most expensive FORCE
 ‘Which dress is the most expensive?’
- (123) $[_{ForceP[TopP[DP} \text{ Nǎ jiàn yīfu}]_i [_{TP} \text{ nǐ yǐjīng chuān-guo } t_i]] (*ma)]?$
 which CL dress 2SG already put.on-EXP FORCE
 $[_{ForceP[TopP[DP} \text{ Nǎ jiàn yīfu}]_i [_{TP} \text{ nǐ hái méi chuān-guo } t_i]] (*ma)]?$
 which CL dress 2SG still NEG put.on-EXP FORCE
 ‘Which dress have you already tried on? And which haven’t you tried on yet?’
- (124) $[_{ForceP[TopP} \text{ Nǎ ge xuéxiào } [_{TP} \text{ wàiguó xuéshēng duō }]]] (*ma)]?$
 whichCL school foreign student much FORCE
 ‘In which school are there many foreign students?’

Both moved topics (cf. [123]) and *in situ* topics (cf. [124]) are in the scope of *ma*. Given the rigid order $TopP > \text{‘even’ FocP}$ (cf. section 6.4 above), we obtain the following complete picture for the sentence periphery in Chinese:

- (125) AttitudeP > ForceP > ClowP > TopicP(recursive) > ‘even’ FocusP > TP (cf. Paul 2010)

Note that (125) abstracts away from linear order, i.e. the sentence-*final* position of SFP, and instead concentrates on the relative hierarchy between the different projections in the Chinese sentence periphery.

7.5. Conclusion

SFP have been demonstrated to be complementisers and to realize the heads of three projections in the split CP with a rigid hierarchy, *viz.* low CP, ForceP and AttitudeP. Importantly, this split CP only exists in root contexts, whereas in non-root contexts at most one C is allowed, if at all. More precisely, C-elements acceptable in non-root contexts are restricted to low C (*láizhe*, *le*, *ne*_i), to the exclusion of the Force and Attitude heads. In addition, this chapter has identified the so far neglected exclusively non-root C-elements *de* in the propositional assertion construction and *dehuà* heading conditional clauses. Importantly, the so-called subordinator *de* in modification structures ‘XP *de* NP’ (where XP includes relative and complement clauses) is not a C-element, but instead instantiates different heads on the D-spine, comparable to English *of* and possessive ‘s.

The root vs. non-root asymmetry observed in the Chinese C-system implies that along with other features, SFP also have to be specified for the feature $[\pm\text{root}]$. With respect to their complex feature bundles, Chinese SFP are therefore on a par with complementisers such as English *that* and *if*, which besides features such as Force (declarative or interrogative, respectively) also encode $[-\text{root}]$, thus challenging Huang, Li and Li’s (2009: 35) view that such complex feature bundles are a characteristic of functional categories in Indo-European languages, but not in Chinese.

As to be discussed in the next chapter, this “syncretic” character makes it impossible to dismiss Chinese SFPs as “categorially deficient” (cf. a.o. Toivonen 2003; Biberauer, Newton, and Sheehan 2009), where this dismissal is motivated by the intention to maintain the crosscategorical generalization associating sentence-final position of particles with OV languages only.

References

- Aldridge, Edith (2011). Neg-to-Q: The historical origin and development of question particles in Chinese. *The Linguistic Review* 28 (4): 411–447 [Special Issue on Particles, edited by Theresa Biberauer and Glenda Newton].
- Aoun, Joseph and Y.-H. Audrey Li (1993). *Essays on the representational and derivational nature of grammar. The diversity of wh-constructions*. Cambridge, Mass.: MIT Press.
- Benincà, Paola (2001). The position of topic and focus in the left periphery. In *Current studies in Italian syntax. Essays offered to Lorenzo Renzi*, Guglielmo Cinque and Giampaolo Salvi (eds.), 39–64. Amsterdam: Elsevier.
- Beutel, Helga (1988). Zur Spezifikation der Satzmodi durch Satzendpartikeln im modernen Chinesisch [On the expression of sentence modes by sentence-final particles in Mandarin]. In *Studien zum Satzmodus* [Studies on sentence mode], Ewald Lang (ed.), 134–175. Berlin: Akademie der Wissenschaften der DDR, Zentralinstitut für Sprachen.
- Biberauer, Theresa, Glenda Newton, and Michelle Sheehan (2009). Limiting synchronic and diachronic variation and change: The Final-over-Final Constraint. *Language and Linguistics* 10 (4): 701–743.
- Bruening, Benjamin (2007). *Wh*-in-situ does not correlate with *wh*-indefinites or question particles. *Linguistic Inquiry* 38 (1): 139–166.
- Bruening, Benjamin and Thuan Tran (2006). *Wh*-questions in Vietnamese. *Journal of East Asian Linguistics* 15, 319–341.
- Chan, Marjorie K.M. (1980). Temporal reference in Mandarin Chinese: An analytical-semantic approach to the study of the morphemes *le*, *zài*, *-zhe*, and *ne*. *Journal of the Chinese Teachers' Association* 15 (3): 33–80.
- Chao Yuen Ren (1968). *A grammar of spoken Chinese*. Los Angeles: California University Press.
- Cheng, Lisa Lai-Shen (1986). *De* in Mandarin. *Canadian Journal of Linguistics* 31 (4): 313–326.
- Cheng, Lisa Lai-Shen (1991). On the typology of *wh*-questions. Ph.D. diss., MIT, Cambridge, Mass.
- Cinque, Guglielmo, and Luigi Rizzi (2008). The cartography of structures. *CISCL Working Papers on language and cognition* [Vincenzo Moscato ed.] 2: 43–59. Università degli studi di Siena (University of Siena): Centro interdipartimentale di studi cognitivi sul linguaggio [CISCL].
- Constant, Noah (2011). On the independence of Mandarin aspectual and contrastive sentence-final *ne*. In *Proceedings of the 23rd North-American Conference on Chinese Linguistics*, Zhuo Jing-Schmidt (ed.), vol. 2, 15–29. Available at: <http://naccl.osu.edu/proceedings/naccl-23>.
- Djamouri, Redouane and Waltraud Paul (2011). A new approach to *-zhe*. Talk presented at the 19th Annual Meeting of the International Association of Chinese Linguistics, Nankai University, Tianjin; June 11–13, 2011.
- Djamouri, Redouane and Waltraud Paul (in preparation). A new approach to *-zhe*. Unpublished manuscript, CRLAO, Paris.
- Dryer, Matthew S. (1992). The Greenbergian word order universals. *Language* 68 (1): 81–138.
- Dryer, Matthew S. (2009). The Branching Direction Theory of word order correlations revisited. In: *Universals of Language today*. Sergio Scalise, Elisabetta Magni, and Antonietta Bisetto (eds), 185–207. Berlin: Springer.
- Egerod, Søren (1994). Aspect in Chinese. In *Tense, aspect and action*. [Empirical approaches to language typology 12], Carl Bache, Hans Basløll, and Carl-Erik Lindberg (eds.), 279–309. Berlin/New York: Mouton de Gruyter.
- Endo, Yoshio (2007). *Locality and information structure: A cartographic approach to Japanese*. Amsterdam, Philadelphia: Benjamins.
- Ernst, Thomas (1995). Negation in Mandarin Chinese. *Natural Language and Linguistic Theory* 13 (4): 665–707.
- Fang, Mei (2006). Běijīnghuà lǐ shuō de yǔfǎhuà. Cóng yánshuō dòngcí dào cóngjù biāoji [Grammaticalization of *shuo* ‘say’ in Beijing Mandarin. From lexical verb to subordinator]. *Zhongguo fangyan xuebao*, nr. 1 (2006): 107–121.
- Fu, Jingqi (1987). *La structure du syntagme nominal en chinois*. Ph.D. Diss., University of Paris 3.

- Gasde, Horst-Dieter and Waltraud Paul (1996). Functional categories, topic prominence, and complex sentences in Mandarin Chinese. *Linguistics* 34 (2), 263–294.
- Haegeman, Liliane (2008). The cartography of discourse markers in West-Flemish. Talk presented at the *Workshop on Particles*, University of Cambridge (UK), October 30–31, 2008.
- Haegeman, Liliane and Virginia Hill (to appear). The syntacticization of discourse. In *Syntax and its limits*, Raffaella Folli, Christina Sevdali, and Robert Truswell (eds.), chapter 18. Oxford: Oxford University Press.
- Hsieh, Miao-Ling (2001). Form and meaning: Negation and question in Chinese. Ph.D. diss., University of Southern California.
- Hsieh, Feng-fan and Rint Sybesma (2008). Shēngchéng yǔfǎ lǐlùn hé Hànyǔ yǔqì yánjiū [Generative grammar and the study of sentence final particles in Chinese]. In *Dāngdài yǔyánxué lilùn hé Hànyǔ yánjiū* [Contemporary linguistic theories and related studies on Chinese]. Yang Shen and Shengli Feng (eds.), 364–374. Beijing: Shangwu.
- Hu, Mingyang (1981). Běijīnghuà de yǔqì zhǔcí hé tàncí [Mood particles and interjections in the Beijing dialect]. *Zhongguo Yuwen* nr. 5 (1981), 347–350; nr. 6 (1981), 416–423.
- Huang, C.-T. James (1982). Logical Relations in Chinese and the theory of grammar. Ph.D. diss., MIT, Cambridge, Mass. [Published 1998 by Garland, New York and London.].
- Huang, C.-T. James (1991). Modularity and Chinese A-not-A questions. In *Interdisciplinary approaches to language: Essays in honor of S.-Y. Kuroda*, Carol Georgopoulos and Roberta Ishihara (eds.), 305–332.
- Huang, C.-T. James, Y.-H. Audrey Li, and Yafei Li (2009). *The syntax of Chinese*. Cambridge: Cambridge University Press.
- Kayne, Richard S. 1994. *The antisymmetry of syntax*. Cambridge, MA: MIT Press.
- Lee, Hun-tak Thomas (1986). Studies on quantification in Chinese. Ph.D. diss., University of California, Los Angeles.
- Li, Boya (2006). *Chinese final particles and the syntax of the periphery*. University of Leiden, Doctoral PhD diss.
- Li, Charles N. and Sandra A. Thompson (1981). *Mandarin Chinese. A functional reference grammar*. Los Angeles: California University Press.
- Li, Charles N., Sandra A. Thompson, and Bojiang Zhang (1998). Cóng huàiyǔ jiǎodù lùnzhuàn yǔqì de [The particle *de* as an evidential marker in Chinese]. *Zhongguo Yuwen* 1998, nr. 2, 93–102.
- Li Wenshan (2007). Jù mò zhǔcí zhēne bǔtán [More on the sentence-final compound *zhēne*]. *Yuyan jiaoxue yu yanjiu* 2007, nr. 5: 61–67.
- Li, Y.-H. Audrey (1992). Indefinite *wh* in Mandarin Chinese. *Journal of East Asian Linguistics* 1 (2): 125–155.
- Li, Y.-H. Audrey (1999). Plurality in a classifier language. *Journal of East Asian Linguistics* 8 (1): 75–99.
- Lin, Jo-wang (2003). Aspectual selection and negation in Mandarin Chinese. *Linguistics* 41 (3): 425–459.
- Lin, Tzong-Hong Jonah. 2001. Light Verb Syntax and the Theory of Phrase Structure. Ph.D. diss., University of California, Irvine.
- Lin, William C. (1984). What does the Mandarin particle *ne* communicate? *Cahiers de Linguistique – Asie orientale* 13 (2): 217–240.
- Lu, Jianming (1980). Hànyǔ kǒuyǔ jùfǎ lǐ de yìwèi xiànxàng [Permutation phenomena in the grammar of spoken Chinese]. *Zhongguo Yuwen* 1980, nr. 1, 28–41.
- Lu, Jianming (1984). Yóu “fēi-yíwèn xíngshì+*ne*” zàochéng de yíwèn jù [Questions formed by adding the particle *ne*]. *Yufa yanjiu he tansuo* 2: 103–108.
- Lu, Jianming (1985). Guānyú xiàndài hànyǔ lǐ de yíwèn yǔqì [On question particles in contemporary Chinese]. *Yufa yanjiu he tansuo* 3: 233–246.
- Lü Shuxiang (1942). *Zhōngguó wénfǎ yàolüè* [An outline of Chinese grammar]. Beijing: Shangwu. [Reprint in: *Lǚ Shūxiāng wénjí* [Collected works of Lü Shuxiang] 1990, vol. 1. Beijing: Shangwu.
- Munaro, Nicola and Poletto, Cecilia (2002). Ways of clausal typing. *Rivista di Grammatica Generativa* 27: 87–105.

- Munaro, Nicola and Poletto, Cecilia (2011). Sentential particles and clausal typing in Venetan dialects. In *Dislocated elements in discourse*, Benjamin Shaer, Philippa Cook, Werner Frey, and Claudia Maienborn (eds.), 173–199. New York & London: Routledge.
- Pan, Victor Junnan (2011b). *Interrogatives et quantification en chinois mandarin : une approche générative*. Rennes: Presses Universitaires de Rennes.
- Pan, Victor Junnan (2012). Syntactic representation of discourse-configurationality in Mandarin. Talk presented at the *45th Annual Meeting of the Societas Linguistica Europaea*, Stockholm University, August 29 – September 1, 2012.
- Paris, Marie-Claude (1981). *Problèmes de syntaxe et de sémantique en linguistique chinoise*. Paris: Collège de France.
- Paul, Waltraud (2005b). Low IP area and left periphery in Mandarin Chinese. *Recherches linguistiques de Vincennes* 33: 111–134.
- Paul, Waltraud (2007). The fine structure of the (right) periphery in Mandarin Chinese. *Journées d'études: La structure des types de phrases*, Paris, Fédération TUL, November 16-17, 2007.
- Paul, Waltraud (2009) Consistent disharmony: Sentence-final particles in Chinese. Unpublished ms., Paris. Available at: <http://crlao.ehess.fr/document.php?id=177>.
- Paul, Waltraud (2010). The sentence periphery in Mandarin Chinese: The interaction of two subsystems. Talk presented at *22nd North-American Conference on Chinese Linguistics and the 18th International Conference on Chinese linguistics*, Harvard University, Department of Linguistics, May 20-22, 2010.
- Paul, Waltraud (2012). Why Chinese *de* is not like French *de*: A critical analysis of the predication approach to nominal modification. *Studies in Chinese Linguistics* [The Chinese University of Hong Kong] 33 (3): 183–210.
- Paul, Waltraud (to appear a). Why particles are not particular: Sentence-final particles in Chinese as heads of a split CP. *Studia Linguistica* [Special issue on particles, ed. by Liliane Haegeman and Ans van Kemenade].
- Paul, Waltraud (to appear b). The in subordinate subordinator *de* in Mandarin Chinese: Second take. In *The attributive particle in Chinese* [Frontiers in Chinese Linguistics Series], Tang, Sze-Wing (ed.). Beijing: Beijing University Press.
- Paul, Waltraud and John Whitman (2008). *Shi...de* focus clefts in Mandarin Chinese. *The Linguistic Review* 25 (3-4): 413–451.
- Paul, Waltraud and John Whitman (2010). Applicative structure and Mandarin ditransitives. In *Argument Structure and Syntactic Relations. A cross-linguistic perspective*, Maia Duguine, Susana Huidobro, and Nerea Madariaga (eds.), 261–282. Amsterdam: Benjamins.
- Rizzi, Luigi (1997). The fine structure of the left periphery. In *Elements of Grammar*, Liliane Haegeman (ed.), 281–337. Dordrecht: Kluwer.
- Rizzi, Luigi (2004). Locality and left periphery. In *Structures and beyond. The cartography of syntactic structures*, vol. 3, Adriana Belletti (ed.), 104–131. Oxford: Oxford University Press.
- Ross, Claudia 1983. On the functions of Mandarin *de*. *Journal of Chinese Linguistics* 11 (2) 214–246.
- Song, Yuzhu 1981. Guānyú shíjiān zhùcí *de* hé *laizhe* [On the tense particles *de* and *laizhe*]. *Zhongguo Yuwen* 1981, nr. 4, 271–276.
- Sybesma, Rint 1999. *The Mandarin VP*. Dordrecht: Kluwer.
- Sybesma, Rint and Boya Li (2007). The dissection and structural mapping of Cantonese sentence final particles. *Lingua* 117 (10): 1739–1783.
- Tang, Sze-Wing (1998). Parametrization of features in syntax. Ph.D.diss., University of California, Irvine.
- Tang, Ting-chi 1988. *Hànyǔ cífǎ jùfǎ xùjī* [Studies on Chinese Morphology and Syntax], vol. 1. Taipei: Student Book Co.
- Tang, Ting-chi 1989. *Hànyǔ cífǎ jùfǎ lùnjí* [Studies on Chinese Morphology and Syntax], vol. 2. Taipei: Student Book Co.
- Teng, Shou-hsin 1973. Negation and aspects in Chinese. *Journal of Chinese Linguistics* 1 (1): 14–37.
- Toivonen, Ida 2003. *Non-projecting words*. Dordrecht: Kluwer.
- Whitman, John (2000). Relabelling. In *Diachronic syntax: models and mechanisms*, Susan Pintzuk, Georges Tsoulas, and Anthony Warner (eds.), 220–238. Oxford: Oxford University Press.

- Whitman, John and Waltraud Paul (2005). Reanalysis and conservancy of structure in Chinese. In *Grammaticalization and parametric variation*, Montse Batllori, Maria-Lluïsa Hernanz, Carmen Picallo, Francesc Roca (eds.), 82–94. Oxford: Oxford University Press.
- Wu, Guo (2005). The discourse function of the Chinese particle *ne* in statements. *Journal of the Chinese Language Teachers' Association* 40 (1): 47–81.
- Wu, Guo 2006. Zhǔ-wèi wèn. Tán “fēi-yíwèn xíngshì+*ne*” yíwèn-jù [The “thematic question”: Non-interrogative form plus the particle *ne*]. *Yuyanxue luncong* 32: 63–82. Peking University.
- Xiong, Zhongru (2007). *Shi...de* de goujiàn fēnxī [Syntactic analysis of the construction *shi...de*]. *Zhongguo Yuwen* 2007, nr. 4: 321–330.
- Yang-Drocourt, Zhitang (2007). *Parlons chinois*. Paris: L'Harmattan.
- Zhu, Dexi 1982. *Yǔfǎ jiǎngyì* [On grammar]. Beijing: Shangwu.

8. Chinese from a typological point of view: Long live disharmony!

[July 4, 2013]

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Chinese from a typological point of view: Long live disharmony!

Throughout this book I have demonstrated how an in-depth analysis of Chinese not only challenges our preconceived ideas about isolating languages, but also invalidates quite a number of typological generalizations observed to hold in other languages.

The generalizations at stake concern the fact that in many languages the order between a head and its complement is the same across different categories. For example, VO languages often have prepositions and OV languages often have postpositions, where the relative order between the adposition and its complement is said to reflect the relative order between the verb and its object. Correlations of this type are said to reflect *cross-categorical harmony*, where the term itself already indicates the inbuilt bias, i.e. the expectation for languages to be “harmonic”, assigning an “outlier” status to “disharmonic” languages. In other words, cross-categorical harmony – starting out as a basically statistical observation in Greenberg 1963 (“almost always, “with overwhelmingly more than chance frequency” etc.) – has become an “ideal state” which languages are supposed to seek. As a consequence, cross-categorical harmony has acquired the status of one of the driving forces for change, insofar as a change from a disharmonic situation into a harmonic one is presented as being “motivated” by the “natural” tendency of languages towards “harmony”, with the annex claim that disharmonic situations are unstable *per se*. Likewise, cross-categorical harmony often plays the role of an evaluation metric for competing synchronic analyses where in general the “harmonic” alternative will be chosen over the “disharmonic” one.

This short description provides a glimpse of the importance the concept of cross-categorical harmony has acquired since Greenberg (1963), where the importance is proportional to the number of misconceptions associated with it, some of which are addressed in Newmeyer (2005) and Whitman (2008). Based on these works, the present chapter shows how Chinese can further contribute to a clarification and help to “deconstruct” cross-categorical harmony as a principle of grammar. Synchronically speaking, Chinese is well-known for being an exception to quite a number of typological generalizations formulated in terms of cross-categorical harmony. Concerning the diachronic aspect of “harmony”, Chinese is an ideal test case, due to its attested history of more than three thousand years.

The chapter is organized as follows. Section 8.1 very briefly introduces word order typology since Greenberg (1963) and the assumptions underlying the concept of cross-categorical harmony. For reasons of space as well as for expository reasons (neither the reader nor the author should get lost), this presentation concentrates on the points that are directly important for the discussion at hand and abstracts away from a large number of associated complex issues. Section 8.2 argues in favour of taking at face value the numerous cases of cross-categorical disharmony observed for Chinese, and against having considerations of harmony influence the analysis of controversial categories. Section 8.3 introduces recent typological data bases such as the *World Atlas of Language Structures online* (WALS), observes that the enlarged language sample relativizes the statistical weight of cross-categorical harmony, and discusses some major shortcomings reducing the utility of typological data bases in general. Section 8.4 follows Newmeyer (2005) and argues against attempts in the past to assign typological generalizations such as cross-categorical harmony the status of a principle of grammar in the form of the *Head Parameter*. More precisely, as demonstrated by Whitman (2008), cross-categorical generalizations are not candidates for universals of grammar, but of a fundamentally statistical nature, because resulting from well-documented patterns of language change. As a consequence, exceptions to “harmonic” situations as those provided by Chinese are precisely what we expect; they arise when the historical origin of an item is different from the one observed in the languages having served as the basis for the generalization. Section 8.5 concludes the chapter.

8.1. *The concept of cross-categorical harmony in typology*

8.1.1. Greenberg (1963)

Based on a sample of 30 languages from different language families,¹ Greenberg (1963) examines the possible correlations between the following sets of criteria: (i) presence of prepositions vs postpositions, (ii) type of dominant order for (nominal) subject, (nominal) object and verb in a declarative sentence: VSO, SVO, SOV, (iii) relative order between adjective and the noun it modifies. In addition, generalizations on a larger scale going beyond these three parameters are proposed as well (cf. universal 14 below). The result is a “basic order typology” (so Greenberg 1963: 76) consisting of 45 universals, presented as general statements, such as the universals #3, 4 and #14, or in the form of implicational universals ‘If A, then B’, such as the universals #5 and #25.

(1) Selection of universals from Greenberg’s (1963) appendix III (pp. 110–113)

- a. Universal 3
Languages with dominant VSO order are always prepositional
- b. Universal 4
With overwhelmingly greater than chance frequency, languages with normal SOV order are postpositional.
- c. Universal 5
If a language has dominant SOV order and the genitive follows the governing noun, then the adjective likewise follows the noun.
- d. Universal 14
In conditional statements, the conditional clause precedes the conclusion as the normal order in all languages.
- e. Universal 25
If the pronominal object follows the verb, so does the nominal object.

Although Greenberg (1963: 76) presents the three parameters as equipollent, the dominant word order type, i.e. VSO, SVO or SOV seems to be the decisive factor. This is evident from Greenberg’s (1963: 97–102) discussion of harmony, where “[h]armonic and disharmonic relations [...] are examples of generalizations” insofar as “[i]n similar constructions, the corresponding members tend to be in the same order” (p. 97). Combining the universals #3 and #4, he concludes that “OV is harmonic with postpositions while VO is harmonic with prepositions”. Via the subjective genitive as in *Brutus’ killing of Cesar*, he then establishes the parallel between verb and noun, on the one hand, and subject or object and the genitive, on the other, in order to explain the “overwhelming association of prepositions with governing noun – genitive order and of postpositions with genitive – governing noun order” (p. 99). As a result, prepositions are claimed to be harmonic with the order ‘noun genitive’, in contrast to postpositions which are harmonic with the order ‘genitive noun’. In a further step, Greenberg (1963: 99) extends the observation holding for the relative order of genitive and noun to that of adjective and noun, given that both adjective and genitive modify the noun. It is this chain of harmonic relations that makes the Chinese nominal projection “exceptional” typologically speaking,

¹ These 30 languages are (in the order given by Greenberg 1963: 74–75): “Basque, Serbian, Welsh, Norwegian, Modern Greek, Italian, Finnish (European); Yoruba, Nubian, Swahili, Fulani, Masai, songhai, Berber (African); Turkish, Hebrew, Burushaski, Hindi, Kannada, Japanese, Thai, Burmese, Malay (Asian); Maori, Loritja (Oceanian); Maya, Zapotec, Quechua, Chibcha, Guarani (American Indian)”. While Chinese is not included here, it figures nevertheless in the appendix II (p. 109) where – alongside with Finnish, Estonian, Ijo, Algonquian and Zoque – it illustrates the basic order type 15, *viz.* a SVO language with postpositions and the order ‘adjective noun as well as ‘genitive noun’.

because the VO order leads to the prediction of the genitive and the adjective following the noun, contrary to facts. (Recall that all modifiers – including clauses – precede the noun).

8.1.2. Hawkins (1980, 1982)

Hawkins is the first to explicitly use the term *cross-category harmony* (CCH). Caution is required, though, because the way he defines the CCH is different from Greenberg (1963) as well as from most of the other typologists working with this concept (cf. the section on Dryer [1992] immediately below). He applies the CCH to *operator* - *operand* pairs across categories, where the notion *operator* is said to correspond to *modifier* and *operand* to *modified* (a distinction borrowed from Venneman 1973). In Hawkins' (1980, 1982) system, determiners, adjectives and genitives are operators on nouns as operands, direct objects, adverbials and subjects are operators on verbs as operands, and NPs are operators on adpositions as operands. The task of the CCH is described as follows:

CCH asserts [...] the importance of a balance in the position of the operand relative to its operators across the different operand categories. It is claimed that there is a quantifiable preference, across the languages of the world, for the ratio of preposed to postposed operators within one operand category to generalize to the other operand categories. Whatever position the operand of one category occupies in relation to its operators should preferably be matched by the position of the operand in each of the other categories. And the more a language departs from this 'ideal' harmonic ordering, the fewer exemplifying languages there will be." (Hawkins 1982: 4)

The last sentence illustrates the quantitative component inherent in Hawkins' definition of CCH, i.e. languages can conform to the CCH in different degrees; the more deviations from the CHH a set of operator – operand pairs displays, the smaller the number of languages realizing this particular set of pairs. For example, SVO languages with postpositions have the deviation factor 1, and SOV languages with prepositions the deviation factor 2; accordingly, the latter type of languages are predicted to be less numerous than the former (cf. Hawkins 1980: 148, table 9). This prediction is borne out by the sample of languages in Greenberg's (1963) appendix II where 19 SVO languages have postpositions and only five SOV languages prepositions. Finally, given that the position of the operand is decisive for the CCH and that it is verbs, adpositions and nouns that act as operands, the harmonic relations established by Hawkins correspond *grosso modo* to the Greenbergian ones, even though the way the harmonies are obtained are not identical.

8.1.3. Dryer (1992) and subsequent work

In his re-examination of the Greenbergian word order correlations, Dryer (1992: 95) invalidates the correlation established by, among others, Greenberg (1963) and Hawkins (1980) between the word order type VSO, SVO, SOV, on the one hand, and the relative order between adjective and noun, on the other. In his data base, there is no tendency for VO languages to have a NP with the order 'noun adjective', nor is there a tendency for OV languages to have a NP with the order 'adjective noun'. However, relative clauses as well as genitives *are* claimed to be object patterners (cf. Dryer 1992: 90; 96, footnote 12) with the noun as verb patterner.² Verb and noun thus do not show the same directionality vis-à-vis all of their "dependents", where *dependent* is a cover term for complements of verbs and adpositions and modifiers in the NP, respectively. Using Dryer's terms, while <noun, genitive> and <noun, relative> as well as <adposition, NP> are "correlation pairs" with noun and adposition acting as "verb patterners", <noun, adjective> presents a "non-correlation" pair, because it does not mirror the order between a verb and its object (cf. Dryer 1992: 82).³

² Dryer's reasoning here is not clear to me and I refer the reader to the rather lengthy explanatory footnote 12, concluded by the following reference to English: "The absence of a correlation in the case of noun and adjective despite the correlation in the case of noun and relative clause can be partly understood in terms of the large number of languages, like English, in which the adjective precedes the noun and the relative clause follows it." (Dryer 1992: 96, footnote 12).

³ "If the order of a pair of elements X and Y exhibits a correlation with the order of verb and object respectively, then I will refer to the ordered pair (X,Y) as a *correlation pair*, and I will call X a *verb patterner* and Y an *object patterner* with respect to this correlation pair. For example, since OV languages tend to be postpositional and VO languages prepositional, we can say that the ordered pair (adposition, NP) is a correlation pair, and that, with

Concerning the concept of CHH, even though Dryer (1992) himself uses this term only when discussing Hawkins' work, I think it is correct to state that Dryer's *correlation pairs* illustrate precisely cross-categorical harmony. Note finally that it is Greenberg's (1963) conception of cross-categorical harmony made explicit by Dryer (1992) that has imposed itself, viz. the replication of the relative order between verb and object by other, non-verbal categories.

8.2. *The cases of cross-categorical disharmony in Chinese: What you see is what you get*

Chinese is known in the typological literature as a recurrent exception for otherwise rather pervasive cross-categorical harmonies. This section examines in detail the various syntactic phenomena where Chinese "misbehaves" by not displaying cross-categorical harmony.

8.2.1. Dryer's (1992, 2009) harmonic correlation pairs

In a first step Dryer's correlation pairs that are relevant for Chinese are listed and compared with the actual word order found in Chinese. (Given that the correlation pairs, i.e. cross-categorical harmony in general are established for surface orders, I likewise confine myself to the surface.)

- (2) Selection of correlation pairs from Dryer (1992: 108, table 39; Dryer 2009: 186, table 1)⁴
(order changed and subdivision added for ease of exposition)

<i>Verb patterner</i>	<i>Object patterner</i>
<u>Group 1:</u>	
a. verb	object
b. copula verb	predicate
c. negative auxiliary	VP
<u>Group 2:</u>	
d. adposition	NP
e. adjective	standard of comparison
f. verb	PP
g. verb	manner adverb
<u>Group 3:</u>	
h. noun	relative clause
i. noun	genitive
j. complementizer	S
k. question particle	S
l. adverbial subordinator	S

Chinese is "well-behaved" with respect to the first group. This "harmony" is not surprising, though, because in fact it does *not* go beyond the format of the VP. The ordered pair 'verb object' in (2a) is not a correlation pair, but instead serves as the standard of comparison for the other categories. The pair (2b) 'copula – predicate' (cf. [4]) can in turn be subsumed under (2a), the copula just being a particular type of verb. (2c) 'negative auxiliary – VP' (cf. [3], [4]) finally still refers to the order within the verbal projection and therefore does not illustrate cross-categorical harmony in the strict sense, either.

respect to this pair, adpositions are verb patterners and the NPs that they combine with are object patterners." (Dryer 1992: 82).

⁴ The correlation pairs have remained stable over nearly thirty years, *modulo* the absence in Dryer (2009) of the pair 'verb subject', exemplified by *(There) entered a tall man* in Dryer (1992: 108). Since in the corresponding construction in Chinese the unique (internal) argument of the verb is also to its right (cf. [i]) and on a par with 'verb object' order, the (non-)inclusion of this correlation pair does not change the picture we obtain for Chinese.

(i) *Lái -le kèrén*
come-PERF guest
'Guests have arrived.'

- (3) *Tā (méi) dǎsǎo fángzi*
 3SG NEG sweep room
 ‘He has (not) cleaned the room.’

- (4) *Tā (bù) shì fǎguórén*
 3SG NEG be French
 ‘She is (not) French.’

8.2.2. Where Chinese is harmonic and disharmonic at the same time

Chinese is partly well-behaved with respect to the correlation pairs in Group 2 ([2d] – [2g]). The restriction “partly” is necessary, because in all cases, the opposite order is likewise observed. While prepositions pattern with verbs in taking their complement to the right (cf. [5a]), the equally existing postpositions do not (cf. [5b]). Furthermore, in the so-called *transitive comparative* (cf. Erlewine 2007) the standard of comparison (here *Lǐsì*) indeed follows the adjective (cf. [6a]) and thus qualifies as *object patterner*, but in the comparative construction with *bǐ* ‘compared to’, the standard of comparison precedes the adjective (cf. [6b]). Finally, when arguments, PPs follow the verb, on a par with object NPs (cf. [7a]), but PPs are confined to preverbal position when having adjunct status (cf. [7b]).

- (5) a. *Tā [vP[PP wàng nán] zǒu-le]*
 3SG toward south go -PERF
 ‘She went towards the south.’
 b. *Wǒ [vP [PostP chūxī yǐqián] [vP yào huí jiā]]*
 1SG New.Year’s eve before need return home
 ‘I need to go home before New Year’s eve.’
- (6) a. *Tā gāo Lǐsì shí gōngfēn*
 3SG tall Lisi 10 cm
 ‘He is ten centimeters taller than Lisi.’
 b. *Tā bǐ Lǐsì gāo (*bǐ Lǐsì) shí gōngfēn*
 3SG compared.to Lisi tall compared.to Lisi 10 cm
 ‘He is ten centimeters taller than Lisi.’
- (7) a. *Tā jì -le yī -ge bāoguǒ [PP gěi Měili]*
 3SG send -PERF 1 -CL parcel to Mary
 ‘He sent a parcel to Mary.’
 b. *Tā [PP gěi péngyou] chàng ge gē (*[PP gěi péngyou])*
 3SG to friend sing CL song to friend
 ‘He sings a song for his friends.’

8.2.3. Necessary digression on manner adverbs in Chinese

The correlation pair ‘verb – manner adverb’ stated in (1g) is not easy to evaluate for Chinese, either. First, as already observed above for the other phenomena in group 2, which involve two opposite orderings, manner adverbs can occur in both preverbal and postverbal position:

- (8) *Tā màn yōu yōu de zǒu yī quān*
 3SG leisurely walk 1 round
 ‘She walks a round at a leisurely pace.’
- (9) *Tā hěn dà fāng de zuò -le zì wǒ jiè shào*
 3SG very natural make-PERF self.introduction
 ‘She introduced herself very naturally.’

- (10) *Tā zǒngshì chī de tài kuài*
 3SG always eat DE too fast
 ‘He always eats too fast.’

Second, as observed by Ernst (1994: 48), adverbs in preverbal position can be ambiguous between a subject-oriented reading (i) and a strict manner reading (ii):

- (11) *Tāmen hěn bùlǐmàode duì lǎoshī shuō huà*
 3SG very impolite towards teacher speak word
 (i) ‘Impolitely/rudely, they spoke to the teacher
 (ii) ‘They spoke to the teacher impolitely/rudely.’

Under the first reading (11i), it was rude of the students to speak to the teacher at all, irrespective of the manner used, whereas under the second reading (11ii), the manner itself used when addressing the teacher was rude.. By contrast, an adverb in postverbal position is not ambiguous and only allows for the strict manner reading, as likewise pointed out by Ernst (1994: 48):

- (12) *Tāmen duì lǎoshī shuō de hěn bùlǐmào*
 3SG towards teacher speak DE very impolite
 ‘They spoke to the teacher impolitely/rudely.’

It is evident that the choice to be operated here will directly influence the picture obtained for Chinese. When only counting the postverbal non-ambiguous manner instances, manner adverbs pattern like objects and neatly fit in with the “expected” harmonic picture; if, however, both pre- and postverbal manner adverbs are included, the picture obtained will be much more murky.

The third problem related to manner adverbs in Chinese which makes it difficult to obtain a clear result for their role in a word order typology is the lack of a precise analysis for ‘*de* XP’ in postverbal position, including the exact status of *de*.⁵ While the best *translational* equivalent is indeed a manner adverb, there exist quite a few properties challenging the so far standard analysis of ‘*de* XP’ as manner adverb (cf. Ernst 2002 and references therein for an adverb analysis in terms of right adjunction).

First, only predicative adjectives (e.g. *duì* ‘right’, *zìrán* ‘natural’) are acceptable following *de*, to the exclusion of non-predicative adjectives (e.g. *cuò* ‘wrong’, *tiānrán* ‘natural’) and verbs ((cf. [13] and [14]). The opposition between predicative and non-predicative adjectives is illustrated in (15) (also cf. the discussion in chapter 5.1.1 above.).

- (13) *Tā cāi de duì /*cuò*
 3SG guess DE right/ wrong
 ‘She guessed right/wrong.’
- (14) *Tā huídá de hěn zìrán /*tiānrán*
 3SG answer DE very natural/ natural
 ‘He answered very naturally.’
- (15) *Tā de kàn fǎ {bù duì / hěn zìrán } / { *cuò / *tiānrán }*
 3SG SUB opinion NEG right/ very natural / wrong/ natural
 ‘His point of view is not correct/ is natural / is wrong.’

⁵ This lack of a precise analysis of *de* is in general covered up by hyphenating it with the preceding verb, as is the convention for aspect suffixes, and thus presenting it as part of the verb, resulting in e.g. *Tā cāi-de duì* for (13). My glossing it as DE and assigning it the status of a functional head (cf. below) is only a first preliminary step and illustrates the necessity for further research.

Under an analysis of ‘*de* XP’ as manner adverb, the restriction to exclusively predicative adjectives for XP is completely unexpected. This constraint can, however, be captured by analysing the adjectival phrase (AP) as a complement selected by *de* as a head, where the resulting *de*-phrase in turn is selected by the verb.

Second, this new analysis can also account for the obligatory adjacency between the *de*-phrase ‘*de* XP’ and the verb, on the one hand, and for that between *de* and the AP, on the other, whereas this property must remain mysterious under an analysis as adverb:

- (16) a. Tā huídá (*wèntí) de (*wèntí) hěn zìrán
3SG answer question DE question very natural
‘He answered the question very naturally.’

- b. Tā huídá (*-le) de hěn zìrán
3SG answer -PERF DE very natural
‘He answered very naturally.’

Third, unlike adverbs (cf. [19]), the AP following *de* can be negated (cf. [17a], questioned in the ‘A-*bù*-A’ form (cf. [18]) (cf. C.-T. James Huang 1988, Y.-H. Audrey Li 1990:45, among others) and modified by adverbs (cf. [17b]), thus providing further evidence in favour of its predicate status and against its adverbial status:

- (17) a. Tā shuō [de [AP bù qīngchǔ]]
3SG speak DE NEG clear
‘He doesn’t speak clearly.’

- b. Tā shuō [de [AP_{PP} bǐ nǐ] [AP gèng qīngchǔ]]
3SG speak DE compared.to 2SG more clear
‘He speaks even more clearly than you.’

- (18) Ta chàng de [dàshēng bù dàshēng] ?
3SG sing DE loud NEG loud
‘Does she sing loudly?’

- (19) *Tā [mànyōuyōude] bù [mànyōuyōude] zǒu yī quān? (cf. [8] above)
3SG leisurely NEG leisurley walk 1 round

I would therefore like to propose that the AP as a predicative projection represents a subevent that enters into the composition of a complex predicate with the matrix verb: ‘V *de* AP’. This not only accounts for the syntactic properties just described, but also for the strict manner interpretation observed for postverbal ‘*de* AP’ (cf. [12] above), which contrasts with the availability of both strict manner interpretation (ii) and a subject-oriented reading (i) for preverbal adverbs (cf. [11] above).⁶

This short digression on manner adverbs in Chinese reveals two major sources of problems apparently neglected by word order typology as it is currently practiced. One is the possibly insufficient state of knowledge for the language at hand, which makes it impossible to establish a correlation pair, the phenomena involved simply not being researched enough (as e.g. ‘*de* XP’ in Chinese). The other problem is directly linked to the general format imposed by correlation pairs aiming at testing cross-categorial harmony (X either precedes or follows X). This format leaves no room for semantic ambiguities displayed by particular items when in a given position, as observed for Chinese manner adverbs in the preverbal position, but not in the postverbal position (assuming for the sake of the argument adverbial status for ‘*de* XP’ here). To my knowledge, these certainly not infrequent cases where no 1:1 relationship between form and meaning exists have not been discussed

⁶ In fact, C.-T. James Huang (1992) already proposed a complex predicate analysis for ‘V *de* AP’ (although with concerns different from those presented here), but apparently this was not taken up by subsequent studies of adverbs.

explicitly in word order typology, nor has any heuristic device been proposed of how to deal with them, i.e. whether and how to count them. The same critique applies to the much more straightforward cases where no subtle semantic differences are involved, but where simply two opposite orders are possible within the same language; once again, one is at a loss which phenomenon to count. Needless to say, the temptation to exclusively count the harmonic one and to discard the disharmonic one is great.

8.2.4. Where Chinese is disharmonic throughout

Let us now turn to the correlation pairs in group 3. Here Chinese shows exactly the opposite order of the one predicted for a SVO language and displays the cross-categorical *disharmony* for which it is so often cited in the literature.

8.2.4.1. The nominal projection

In contrast to the orders ‘noun – relative clause’ and ‘noun – genitive’ expected for a SVO language (cf. the correlation pairs [2h] and [2i] above), in the Chinese nominal projection all modifying elements as well as relative clauses and complement clauses precede the NP.

- (20) *yī jiàn zāng/ gānjìng yīfu*
 1 CL dirty/ clean dress
 ‘a dirty/pretty/clean dress’
- (21) *yī ge_{[NP[NP hēi qī] yīguì]}* (Fan 1958: 215)
 1 CL black lacquer wardrobe
 ‘a black-lacquered wardrobe’
- (22) *[_{DP} Měilì/tāmen] de péngyou*
 Mary/3PL SUB friend
 ‘Mary’s friend/their friend’
- (23) *[_{PP} duì wèntí] de kànǎ* (Lü et al. 1980: 157)
 towards problem SUB opinion
 ‘an opinion about the problem’
- (24) *[_{DP} zhèxiē_[TP Ø_i mǎi xiǎo qìchē] (de) rén]*
 these buy small car SUB person
 ‘the persons who bought a small car’
- (25) *[_{DP} [_{TP} Bālí xià xuě] de xiāoxi]*
 Paris fall snow SUB news
 ‘the news that it is snowing in Paris’

As discussed in chapter 5.1.3 above, under certain circumstances the subordinator *de* can be absent and the adjectival or nominal modifier can be simply juxtaposed with the head noun (cf. [20] and [21]).

8.2.4.2. The head-final CP

Of the remaining three “exceptions” to the word order predicted for a SVO language, two cases, i.e. (2j) and (2k), reduce to the unexpected, hence disharmonic head-final character of the CP in Chinese; the order ‘clausal complement – complementiser’ is “unexpected” insofar as here the complementiser visibly does not to pattern with the verb.

As argued for in the preceding chapter, in the light of Rizzi’s (1997) split CP it makes sense to extend the notion of complementisers from exclusively subordinating items such as *that* and *whether* in English to the so-called *sentence-final particles* in matrix sentences in Chinese, among them the yes/no-question particle *ma*.

- (26) [_{ForceP}[_{TP} Tā huì chàng gē] ma]?
 3SG can sing song FORCE
 ‘Can he sing?’

As a consequence, Dryer’s (1992) “question particle” involves a C element as well and the relevant correlation pair (2k) can therefore be subsumed under (2j) predicting the order ‘complementiser – sentential complement’ for SVO languages. Recall that chapter 7 also provided evidence for *de* in the propositional assertion and *dehuà* in conditional clauses as exclusively subordinating complementisers, thus consolidating the head-final character of the Chinese CP in both matrix and embedded contexts.

The disharmony between SVO order and head-final CP displayed by Chinese is significant insofar as Dryer (1992: 102), referring to his own work (Dryer 1980) as well as Hawkins (1990: 225), concludes that “[...] in fact it may be an exceptionless universal that final complementizers are found only in OV languages. [...] complementizers are therefore verb patterners, while the Ss they combine with are object patterners.”⁷ This is confirmed in Dryer (2009, table [24]) where no case of sentence-final C for the 140 VO languages examined is attested.⁸ Unfortunately, Dryer (2009) only indicates language genera; accordingly, there is no way to know whether Mandarin Chinese or any other Sinitic language was included under the very vast genus ‘South-East-Asian and Oceanic languages’ in this survey. (Note Chinese is not included in the database used in Dryer 1992).

8.2.4.3. Dryer’s (1992, 2009) unwieldy *adverbial subordinators*

Finally, the last correlation pair (2l) ‘adverbial subordinator – sentence’ (as in Dryer’s example *because Bob left*) cannot be directly transposed to Chinese, because the term *adverbial subordinator* is very vague and turns out to involve several different categories. This holds not only for Chinese, but for other languages as well. In English, for example, items with lexical content such as *before*, *after* are in general analysed as prepositions (selecting a clausal complement), in contrast to *that* and *if* analysed as complementisers.⁹ However, both groups of items would probably be considered as falling under the pre-theoretical labels *adverbial subordinators* or *subordinating conjunctions*.

The question as to what items can count as possible equivalents of “adverbial subordinators” in Chinese leads us to another poorly understood domain in Chinese syntax. Naturally, it goes beyond the scope of this section to accomplish an in-depth analysis of this issue. Instead, the main purpose of the following discussion is to show that whatever categories turn out to be included under the cover term “adverbial subordinator”, they are all clearly different from the various types of complementisers realized by SFP in Chinese (cf. chapter 7).

In fact, as in English, the Chinese candidates for subordinating conjunctions such as *yàoshi* ‘if’, *rúguǒ* ‘if’, *suīrán* ‘although’, *jìrán* ‘since’, *yīnwèi* ‘because’, *zìcóng* ‘since (temporal)’ do not represent a homogeneous group, either, but comprise (sentence-level) adverbs, on the one hand, and prepositions, on the other. As Lu Peng (2003, 2008) has argued for in great detail, *rúguǒ* /*yàoshi* ‘if’, *suīrán* ‘although’, and *jìrán* ‘since’ are sentence-level adverbs on a par with e.g. *xiǎnrán* ‘obviously, naturally’, *xìnghǎo* ‘fortunately’, *kěxī* ‘unfortunately’ etc. More precisely, they pattern with (DP) topics occupying the external or the TP-internal topic position (Spec, TopP) (cf. chapter 6). For reasons of space, this will be shown only for the pair *xìnghǎo* ‘fortunately’ and *rúguǒ* ‘if’. (For further discussion, cf. Lu Peng 2003, 2008 §3.2.)¹⁰

⁷ This goes back to Greenberg’s (1963: 81) universal 9: “With well more than chance frequency, when question particles or affixes are specified in position by reference to the sentence as a whole, if initial, such elements are found in prepositional languages, and, if final, in postpositional.” Recall that in general VSO languages and SVO languages are associated with prepositions, and SOV languages with postpositions.

⁸ Explicit reference is made to English *that* as illustrating a clause-initial C and to Japanese *to* as illustrating a clause-final C, respectively.

⁹ Prepositions in English behave differently from C such as *that*, *if* in that they may allow sluicing:

(i) *I left before Bill left, but Jane left after [e]*
 (ii) **I know that Bill left, but Jane doesn’t know that/whether [e]*

¹⁰ C.-T. James Huang (1982: 85) left open the P vs. C status of items such as *yīnwèi* ‘because’, concentrating on the head-initial character of their projection. Note that he analysed *rúguǒ* ‘if’ and *suīrán* ‘although’ as P/C-heads on a par with *yīnwèi* ‘because’, an analysis which remained unchallenged up to Lu Peng’s (2003) dissertation.

- (27) a. [ext.TopP Xìnghǎo [TP wǒ [int.TopP [nà fù huà] [AspP mài-le ge gāo jià]]]]
 fortunately 1SG that CL painting sell-PERF CL high price
 ‘Fortunately, I sold that painting at a high price.’ (Lu Peng 2008: 164)
- b. [ext.TopP [Nà fù huà] [TP wǒ [int.TopP xìnghǎo [AspP mài-le ge gāo jià]]]].
 that CL painting 1SG fortunately sell-PERF CL high price
 ‘That painting, I fortunately sold at a high price.’
- c. [ext.TopP [Nà fù huà] [ext.TopP xìnghǎo [TP wǒ [AspP mài-le ge gāo jià]]]].
 that CL painting 1SG fortunately sell-PERF CL high price
 ‘That painting, fortunately I sold it at a high price.’

As illustrated in (27a) and (27b), *xìnghǎo* ‘fortunately’ as a sentential adverb can occur either in the external or the internal topic position to the left or the right of the subject, respectively. Furthermore, both the DP *nà-fù huà* ‘that painting’ and the adverb *xìnghǎo* ‘fortunately’ can co-occur in the external topic positions (cf. [27c]), in either order: *nà fù huà, xìnghǎo, ...* or *xìnghǎo nà fù huà, ...*

The same holds for both items in the TP-internal topic positions, where they are likewise interchangeable:

- (28) a. [TP Wǒ [int.TopP xìnghǎo [int.TopP [nà fù huà] [AspP mài-le ge gāo jià]]]]
 1SG fortunately that CL painting sell-PERF CL high price
- b. [TP Wǒ [int.TopP [nà fù huà] [int.TopP xìnghǎo [AspP mài-le ge gāo jià]]]]
 1SG that CL painting fortunately sell-PERF CL high price

‘I fortunately sold that painting at a high price.’

(29) below shows *rúguǒ* ‘if’ to have the same distribution as *xìnghǎo* ‘fortunately’. It can precede or follow the subject in the conditional clause; when to the right of the subject, it is interchangeable with an internal topic DP, both occupying the specifier position of a (recursive) internal TopP. (Recall from chapter 6.1.1 that the external topic position is the default position for a conditional clause.)

- (29) a. [ext.TopP[cond.clause Rúguǒ [TP nǐ [int.TopP [DP yīngyǔ kǎoshì] [AuxP néng kǎo ge dìyī]]]]]
 if 2SG English exam can pass CL first
- [TP wǒ jiù jiǎnglì nǐ yī liàng xīn zìxíngchē]]
 1SG then award 2SG 1 CL new bicycle
- ‘If in the English exam you can pass as first, I’ll reward you with a new bicycle.’
- b. [cond.clause Nǐ [int.TopP rúguǒ [int.TopP [DP yīngyǔ kǎoshì] néngkǎo ge dìyī]]]]...
 2SG if English exam can pass CL first
 ‘If in the English exam you can pass as first, ...’
- c. [cond.clause Nǐ [int.TopP [DP yīngyǔ kǎoshì] [int.TopP rúguǒ néngkǎo ge dìyī]]]]...
 2SG if English exam can pass CL first
 ‘If in the English exam you can pass as first, ...’

Accordingly, *rúguǒ* ‘if’ is not a head and the following clause is not its complement. Instead, *rúguǒ* is a sentence-level adverb which shows the same distribution as DP topics, viz. it occupies the specifier of the TP-external or TP-internal TopP.¹¹

¹¹ While semantically the sentence-level adverb *rúguǒ* ‘if’ may fulfill a function similar to that of the non-root C *dehuà*, it clearly belongs to a different syntactic category, as witnessed by the co-occurrence of the two:

(i) [ClowP[TopP[CP(-root) Rúguǒ tā lái dehuà] [TP wǒ jiù bù cānjiā huìyì] le]

By contrast, *yīnwèi* ‘because’, *zìcóng* ‘since (temporal)’ etc. are prepositions, i.e. heads and must therefore always precede their complement clause. Note that for causal and temporal clauses the external topic position is likewise their default position:

- (30) a. $[_{ext.TopP}[_{PP} \text{Yīnwèi} [_{TP} \text{Zhāng Sān zuótiān méi shōudào nà fēng xìn}]]$
 because Zhang San yesterday NEG receive that CL letter

$[_{TP} \text{wǒ jīntiān gěi tā fā -le fèn chuánzhēn}]]$
 1SG today for 3SG send-PERF CL fax

‘Since Zhang San didn’t receive the letter yesterday, I sent him a fax today.’

- b. $*[_{ext.TopP}[_{PP} \text{Zhāng Sān} [_{prep} \text{yīnwèi}] \text{zuótiān méi shōudào nà fēng xìn}]]$
 Zhang San because yesterday NEG receive that CL letter

$[_{TP} \text{wǒ jīntiān gěi tā fā -le fèn chuánzhēn}]]$
 1SG today for 3SG send-PERF CL fax

(Lu Peng 2008: 131)

The fact that constituents to the left of the prepositions *yīnwèi* ‘because’, *zìcóng* ‘since (temporal)’ etc. are clearly outside the causal/temporal clause PP is further illustrated in (31):

- (31) $*[_{ext.TopP} \text{Zuótiān} [_{ext.TopP}[_{PP} \text{yīnwèi} [_{TP} \text{Zhāng Sān méi shōudào nà fēng xìn}]]]$
 yesterday because Zhang San NEG receive that CL letter

$[_{TP} \text{wǒ jīntiān gěi tā fā -le fèn chuánzhēn}]]$
 1SG today for 3SG send-PERF CL fax

(Lu Peng 2008: 182)

Zuótiān ‘yesterday’ can only be construed as matrix topic and is then in contradiction with *jīntiān* ‘today’ in the matrix TP. (31) therefore represents the same incompatibility between the two adjunct NPs *zuótiān* ‘yesterday’ and *jīntiān* ‘today’ as (32) without the *yīnwèi*-PP as second external topic:

- (32) $*[_{ext.TopP} \text{Zuótiān} [_{TP} \text{wǒ jīntiān gěi tā fā -le fèn chuánzhēn}]]$
 yesterday 1SG today for 3SG send-PERF CL fax

(31) thus contrasts sharply with (33a) where *míngtiān* ‘tomorrow’ to the left of *rúguǒ* is not a matrix topic, but included in the conditional clause, as shown by its compatibility with *hòutiān* ‘the day after tomorrow’ in the matrix TP:

- (33) a. $[_{ext.TopP}[_{cond.clause} \text{Míngtiān rúguǒ} [_{TP} \text{Zhāng Sān hái méi shōudào nà fēng xìn}]]]$
 tomorrow if Zhang San yet NEG receive that CL letter

$[_{TP} \text{wǒ hòutiān gěi tā fā fèn chuánzhēn}]]$
 1SG day.after.tomorrow for 3SG send CL fax

‘If tomorrow Zhang San still hasn’t received the letter, I’ll send him a fax the day after tomorrow.’

- b. $[_{ext.TopP}[_{cond.clause} \text{Rúguǒ} [_{TP} \text{Zhāng Sān míngtiān hái méi shōudào nà fēng xìn}]]]$
 if Zhang San tomorrow yet NEG receive that CL letter

$[_{TP} \text{wǒ hòutiān gěi tā fā fèn chuánzhēn}]]$
 1SG day.after.tomorrow for 3SG send CL fax

if 3SG come C(-root) 1SG then NEGattend meeting CLOW
 ‘If he comes, then I won’t attend the meeting.’

‘If tomorrow Zhang San still hasn’t received the letter, I’ll send him a fax
the day after tomorrow.’ (Lu Peng 2008: 183)

The acceptability of (33a) is thus on par with that of (33b) where *míngtiān* occurs to the right of *rúguǒ* and the subject DP and is therefore automatically construed as part of the conditional clause.

This brief study has demonstrated that Chinese equivalents for subordinating conjunctions are not a homogeneous group, but instantiate different categories, i.e. sentence-level adverbs (e.g. *rúguǒ* ‘if’, *suīrán* ‘although’, *jìrán* ‘since’) on the one hand, and prepositions taking clausal complements (e.g. *yīnwèi* ‘because’, *zìcóng* ‘since (temporal)’), on the other. As a consequence, the correlation pair ‘adverbial subordinator – sentence’ has no *raison d’être* for Chinese, because it does not provide any additional information, the order ‘preposition – NP’ already being stated in the correlation pair (2d). As for the sentence-level adverbs, since they are phrases and not (selecting) heads, they are not relevant for cross-categorical correlations based on the relative order between a verbal head and its object. Last, but not least, prepositions and sentential adverbs are clearly distinct from SFP realizing different types of complementisers.

8.2.5. Interim summary

The preceding discussion illustrates a major problem of word order typology where both vague semantic labels such as *adverbial subordinator* and precise syntactic categories (adposition, complementiser etc.) are used to establish relative orderings. As a consequence, the correlation pairs are very uneven and sometimes overlap, as in the case of (2j) and (2k) above, where the correlation pairs for question marker (the SFP *ma*) and for complementisers in fact refer to the same category. In the worst case (exemplified by *adverbial subordinator*), the term chosen does not even refer to an identifiable category, but covers several different phenomena. It goes without saying that the problems outlined here increase exponentially in large-sized data bases such as *World Atlas of Language Structures online* (cf. section 8.3 immediately below), which is a huge collective project; since here the data are not entered by one person only it is impossible to identify and control for an eventual individual bias introduced by the compiler.

8.3. Typological data bases and the concept of cross-categorical harmony

The *World Atlas of Language Structures online* (cf. Dryer and Haspelmath 2011), short WALS (wals.info) has become one of the major testing grounds for potential universals, referred to by functional and formal linguists alike, because its sheer size alone seems to guarantee its solidity: the feature concerning the relative order between verb and object, for example, provides data for as many as 1519 languages.

One interesting consequence of the huge number of languages covered by WALS is the relativization and/or refutation of several so far robust cross-categorical correlations, such as the one between the V(S)O order and prepositions and OV order and postpositions (cf. Greenberg’s universals 3 and 4 as well Dryer’s correlation pair (2d) above). When combining the feature 83a for the relative order between verb and object with the feature 85a for the relative order between adposition and NP, one obtains the following results (wals.info, accessed February 2, 2013):

(34) Correlation between ‘verb – object’ order and ‘adposition – NP’ order

	Postpositions (577)	Prepositions (512)	Inpositions (8)	No dom. order (58)	No adposition (30)
OV (713)	472	14	3	16	11
VO (705)	42	456	1	33	14
No dom. order (101)	34	13	3	6	5

First, there are 56 direct counter-examples against the correlation ‘V(S)O – prepositions’ and ‘OV – postpositions’, viz. 14 OV languages with prepositions and 42 VO languages with postpositions.

Second, 49 languages have both prepositions *and* postpositions, among them Chinese.¹² Last, but not least, there are 101 languages without a dominant order for verb and object, which accordingly do not allow to establish any correlation. All in all then, about 200 languages (from a total of 1519 languages) do not conform to the expectation that orderwise adpositions pattern with verbs. This is a clear indication of the statistical nature of this particular cross-categorical harmony addressed in more detail in section 8.4 below), which also somewhat reduces the “exceptional” character of those languages that have two types of adpositions with opposite headedness. The fact that neither German nor Dutch figure among the latter type of languages and are instead presented as preposition-only languages without any dominant order in WALS leaves enough room for the assumption that the number of languages with both pre- and postpositions might be much larger.¹³ (For a discussion of postpositions in German, cf. chapter 4.4.1 and 4.4.2 above).

If one now turns to check the correlation pairs of group 3 where Chinese with its head-final CP displays exactly the opposite of the expected order one is faced with the problem that the category “complementiser” does not figure among the features that can be consulted in WALS. Instead, one has to fall back on feature 92a “polar question particle” and feature 94a “adverbial subordinator”. Given the problems outlined above for that latter (non-)category when applied to English and Chinese, it seems safe to assume that the data entered for that feature will not only include complementisers, but also other categories such as adpositions selecting clauses complements, adverbs etc.; accordingly, this feature can simply not tell us much about the distribution of complementisers and is of no use here. There only remains then feature 92a “polar question particle”. Interestingly, when correlating it with word order, OV and VO languages in fact behave more or less alike, insofar as for both word orders the sentence-*initial* position is much rarer (i.e. observed in 37 OV and 82 VO languages, respectively) than the sentence-*final* position (observed for 140 OV and 154 VO languages, respectively). Since against the backdrop of Rizzi’s (1997) split CP approach it is likely that many of these question particles can be analysed as complementisers, this considerably weakens Dryer’s (1992: 102; 2009, table [24]) claim that complementisers are verb patterners and that accordingly final complementizers are found only in OV languages. As a consequence, Chinese is very probably just one example among many of a VO language with a head-final CP.

However, a closer scrutiny of the languages included under feature 92a betrays some serious problems and raises doubts as to the utility of the data given by WALS in general. More precisely, an extremely well-studied and easily accessible language such as French sees itself classified among languages marking polar questions with sentence-initial “particles” such as the Australian language Mokilese or !Xóð (Southern Khoisan, Bhotswana), thus presenting the mirror image of Chinese. The “particle” alluded to is *est-ce que* (cf. Dryer 2008a), whose analysis as a particle is maintained despite Dryer’s acknowledging the composite status of *est-ce que* (‘verb plus demonstrative plus complementiser’). Given the existence of the corresponding negated form ‘*n’est-ce pas que* + sentence’, indicating that the copula in *est-ce que* is clearly identifiable as such, the analysis of *est-ce que* as a particle, i.e. as an X^0 whose sub-components are opaque to syntactic operations, is at least controversial. And even if one granted that point, the presentation in WALS completely glosses over the well-known fact that *est-ce que* also occurs in *wh*-questions and is then *preceded* by the *wh*-phrase. In other words, the alleged particle *est-ce que* is neither always sentence-initial nor does it exclusively serve to form *yes/no* questions. Accordingly, its description as a sentence-*initial polar question particle* appears patently inadequate. (For an in-depth discussion of *est-ce que*, cf. Munaro and Pollock 2005.) The fact that such a misleading analysis is proposed for a well-known language such as French is quite disturbing and casts doubt on the accuracy of analyses in the case of languages where only

¹² Here WALS implements the results of Djamouri, Paul and Whitman (2009, 2013) and thereby corrects its initial presentation of Chinese as a preposition-only language (Dryer, p.c.). For postpositions, cf. chapter 4 above.

¹³ The classification of Dutch and German as displaying no dominant basic word order illustrates another drawback of purely surface oriented data bases. For there is no way to encode the well-known fact that in Dutch and German matrix clauses, the (inflected) verb always occupies the second position, whereas in embedded clauses, the inflected verb occupies the sentence-final position. In other words, there is *no* choice at all, contrary to what the label “no dominant order” implies. To be precise, WALS does have a feature (81b) referring to languages with two dominant word orders, where German and Dutch figure among the languages with SOV or SVO. Note, though, that SVO is only one of the possible realizations of V2 order, where any XP (argument or adjunct alike) can occupy the first position preceding the verb.

second hand knowledge via consulting grammars is available. This is evidently the case for the majority of languages: WALS is dependent on the adequacy and exhaustiveness of the grammars used and must fail where the respective grammars fail.

Evidently, this is a general problem inherent in all typological data bases. *TerraLing*, a “searchable database of the world’s languages” (cf. <http://www.terraling.com>)¹⁴ does not mention postpositions for German, either, but only prepositions, exactly like WALS (cf. <http://www.terraling.com/groups/7/lings/730>). TerraLing also adopts some of the more obscure correlation pairs, such as *adverbial subordinator* – clause (along with complementiser – clause). As in the case of WALS, a detailed examination of the entry for Mandarin Chinese reveals quite a few shortcomings (cf. <http://www.terraling.com/groups/7/lings/772>). First, only prepositions, but no postpositions are postulated for Chinese, contrary to fact (cf. chapter 4 above). Furthermore, despite the well-established analysis of the sentence-final particle *ma* in *yes/no* questions as a complementiser (cf. Thomas Hun-tak Lee 1986), complementisers seem to be absent from Chinese as well, given the negative value for both correlation pairs (“values” in TerraLing’s terminology) ‘complementiser – clause’ and ‘clause – complementiser’. Instead, Chinese is said to display the order ‘adverbial subordinator – clause’ (but not the opposite order); as discussed at great length above, this term borrowed from WALS comprises several different categories and is therefore not very informative. Interestingly, TerraLing also makes reference to suprasegmental features, such as the possible realization of polar questions by intonation (cf. value Q04). Strangely enough, this possibility is excluded for Chinese, notwithstanding the well-known observation by Lu Jianming (1985) that a *yes/no* question can be obtained by a difference in intonation (cf. chapter 7.2.2.1 above). Last, but not least, the description of *de* as a “modifier marker that appears after an adjective” is patently inadequate, given the well-known fact that in ‘XP *de* NP’ *de* combines with all kinds of modifier XPs, i.e. NPs, PPs, PostPs, QPs, complement clauses and relative clauses (cf. chapter 5.1.1 above).

8.4. *Why typological generalizations are not part of grammar*

Notwithstanding the serious drawbacks just outlined which considerably reduce the utility of data bases such as WALS, it is difficult to escape the temptation not to use a statistical tendency provided by WALS when it confirms one’s claim. I am not an exception here, either, putting e.g. forward the existence of about 200 languages (in a corpus of a bit more than 1500 languages) lacking cross-categorical harmony between VO or OV order and the sentence-initial vs. sentence-final of *yes/no* question particles, in order to make Chinese look less “exceptional”. However, in the light of the discussion in section 8.4.2 below, it should be obvious that a given structure is proven to comply with the general constraints on human languages *qua* its very existence; if it weren’t possible, it would simply not be there and would not be acquirable by the child learner at all. Whether the same structure is attested for other languages or not and whether these other languages are of an identical word order type or not is then completely irrelevant.

8.4.1 *Formal theories and typological data bases*

In spite of the numerous problems with WALS discussed above, more and more studies in the generative grammar framework likewise refer to WALS in order to back up certain claims. This is, however, completely anachronistic insofar as functional categories are quasi absent from Greenberg (1963) and its subsequent development in WALS. While the absence of functional categories in Greenberg (1963) has purely historical reasons, it being written before the (official) advent of functional categories in the wake of Abney (1987), this evidently does not apply to WALS itself. For example, as discussed in section 8.3 above, the category “complementiser” does not figure among the features included in WALS. Instead, one has to fall back on feature 92a “polar question particle” and feature 94a “adverbial subordinator”, where polar question particles might in fact comprise interrogative force heads such as *ma* in Chinese matrix questions. By contrast, *adverbial subordinator* has been shown to be a cover term for different categories: clause selecting prepositions in English

¹⁴ As stated on the website: “TerraLing is a collection of searchable linguistic databases that allows users to discover which properties (morphological, syntactic, and semantic) characterize a language, as well as how these properties relate across languages.”

(*after, before*) and in Chinese (*yinwèi* ‘because’, *zìcóng* ‘(temporal) since’, complementiser in English (*that, if*) and sentence-level adverbs in Chinese (*rúguǒ* ‘if’, *suīrán* ‘although’) (cf. section 8.2.4.3 above). This does however not prevent Biberauer, Newton and Sheehan (2009) from equating WALS’ *adverbial subordinator* with the category *complementiser* and presenting the statistics given in WALS (279 VO languages with a sentence-initial adverbial subordinator vs. only 2 with sentence-final adverbial subordinator) as evidence for their claim that a head-final (subordinating) CP is incompatible with VO word order.¹⁵ More precisely, being aware of the fact that within Rizzi’s split CP approach the SFP occurring in Chinese matrix sentences are analysed as different types of C, they restrict this claim to subordinating C. However, this caveat cannot save their claim, either, given the existence of the exclusively non-root C *de* in the propositional assertion and of *dehuà* in conditional clauses (cf. section 7.3.1 above).

While this particular case echoes the potential universal postulated by Dryer (1992, 2009), *viz.* that only OV languages have a sentence-final complementiser (cf. sections 8.2.4.2 and 8.2.4.3 above), for Biberauer, Newton and Sheehan (2009) this is just one the consequences of the more general *Final-over-final constraint* (FOFC), which in general excludes a head-final projection above a head-initial one.¹⁶ In other words, what is at stake here is an entire research program that is for a large part based on WALS as supporting evidence. This is highly problematic, because the often vague semantic labels examined in WALS are incompatible with the degree of theoretical sophistication put forward in the syntactic analyses elsewhere in this research program, which *de facto* makes it difficult, if not impossible to use the results from WALS.

The difficulty of transposing the features used by WALS into a more stringent theoretical framework is particularly striking in the case of functional categories. In turn, functional categories can induce quite some complications for the concept of cross-categorial harmony. Let us take the Chinese nominal projection as an example. When examined more closely, the so-called subordinator *de* turns out to be an instantiation of different functional heads within the nominal projection, among them light *n* and *Determiner* (cf. Paul [to appear b] and the brief discussion in chapter 5.2.3 above). Leaving the details of this analysis aside, what is important for our purpose here is that only the (lexical domain) NP is head-final in Chinese, as evidenced by modification without *de* as in (35) (cf. section 8.2.4.1 above); the projections headed by *de*, however, are head-initial.¹⁷

¹⁵ In fact, Biberauer, Newton and Sheehan (2009) not only gloss over the categorial heterogeneity of the term *adverbial subordinator*, but also over the word vs. affix status of the items subsumed. As explained by Dryer (2008b) in his comments on that feature, for certain languages case suffixes are included as well, such as e.g. the instrumental *-inda* combining with gerunds to form ‘because’ clauses in Kannada (Dravidian, India).

(i) Kannada (Sridhar 1990: 74) (example 12 of feature 94 by Dryer in WALS)

Bisilu hecca:giruvudar-inda
heat much.ADV.be.N.PST.GERUND.OBL-INSTR
‘since it’s very hot’

Cantonese figures among the (S)VO languages with mixed order (sentence-initial and -final adverbial subordinator), whereas Mandarin Chinese is not included in the sample of languages examined here.

¹⁶ For expository reasons, I largely simplify here. For the various successive versions of FOFC, cf. a.o. Biberauer, Holmberg and Roberts (2007, 2008), Biberauer, Newton and Sheehan (2009) and Sheehan to appear (2013).

¹⁷ At first sight, this analysis looks like the one proposed by Simpson (2001, 2003). However, Simpson’s (2001) analysis of *de* as *Determiner* hinges on postulating an underlying clause for every XP, a move necessary in order to transpose Kayne’s analysis (1994) of relative clauses (cf. (i)) to Chinese (cf. (ii)). Accordingly, a DP such as *wǒ de shū* ‘my book’ in (iii) is derived in the same way as *wǒ zuótiān mǎi de shū* ‘the book I bought yesterday’ with a relative clause as XP as in (ii), *modulo* the presence of a covert possessive verb in (iii):

(ia) [DP the [CP [Comp that] [IP Bill liked picture]]]
(ib) [DP the [CP picture_i [C' [Comp that] [IP Bill liked t_i]]]]
(iia) [DP de [CP [Comp Ø] [IP wǒ zuótiān mǎi shū]]
(iib) [DP de [CP shū_i [C' [Comp Ø] [IP wǒ zuótiān mǎi t_i]]]]
(iic) [DP [IP wǒ zuótiān mǎi t_i]_k [D' [D de] [CP shū_i [C' [Comp Ø] t_k]]]]
(iiaa) [DP de [CP [Comp Ø] [IP wǒ I° [VP e shū]]]]
(iiib) [DP de [CP shū_i [Comp Ø] [IP wǒ I° [VP e t_i]]]]
(iiic) [DP [IP wǒ I° [VP e t_i]_k [DP de [CP shū_i [Comp Ø] t_k]]] Simpson (2001:150-52)

Note, though, that an analysis systematically positing clausal sources for modifiers must fail in the case of XPs that are never able to function as predicate, such as non-predicative adjectives (cf. chapter 5.1.1) and PPs (cf.

- (35) a. *yī jiàn* [_{NP} *zāng/ gānjìng* *yīfu*] (= [20], [21] above)
 1 CL dirty/ clean dress
 ‘a dirty/clean dress’
- b. *yī zhāng* [_{NP} *mùtóu zhuōzi*]
 1 CL wood table
 ‘a wooden table’
- (36) [_{DP} *Zhāngsān* [_{D'} *de* [_{nP} *Lǐsì* [_{n'} *de* [_{NP} *zhàopiàn*]]]]]
 Zhangsan DE Lisi DE photograph
 ‘Zhangsan’s photograph(s) of Lisi’ [not: ‘Lisi’s photograph(s) of Zhangsan’]

As indicated in (36), the argument of N bearing the theme role, *Lisi*, is hosted within *nP*, while the possessor *Zhangsan* occupies Spec,DeP. The unavailability of the interpretation ‘Lisi’s photograph(s) of Zhangsan’ indicates that an argument of N must be realized within *nP*, where *nP* is the next higher projection above the lexical domain NP and below DeP.¹⁸

Does this new analysis reduce the cross-categorical disharmony between the head-initial VP and the nominal projection in Chinese, now that only the lexical domain NP is head-final? Or is cross-categorical (dis)harmony measured between lexical categories only, to the exclusion of functional categories, given the crucial role of the concept of *verb patterner*? Evidently, grammatical models using a large array of functional categories must raise and answer these questions before being able to adduce statistical tendencies from WALs, in order to know whether there exists a(ny) *tertium comparationis*. The preceding discussion where a few phenomena were examined in detail and compared to their treatment in WALs does not leave much room for optimism.¹⁹

To conclude this brief discussion on the role of FC in cross-categorical harmony, let us turn to Japanese. Since Greenberg (1963), Japanese has been known as the *rigid subtype* of OV languages, on the ground of its pervasive cross-categorical harmony with respect to head-finality. The OV order is paralleled by the existence of postpositions (to the exclusion of prepositions), by the sentence-final position of question particles and by the order ‘XP (*no*) noun’ where XP includes modifiers, complement clauses and relative clauses

- (37) a. *kuroi boosi*
 black hat
 ‘a black hat’

chapter 3.3); for a detailed refutation of proposals positing an underlying clause for every modifier XP, cf. Paul (2012). Furthermore, Simpson’s analysis cannot account for *several* instances of *de* within the same nominal projection (cf. [36]). Cases such as (36) imply that the feature make-up of *de* is not completely identical, but partly depends on its position in the hierarchy of the nominal projection and on the nature of the modifier XP in its specifier. What remains constant for all instances of *de*, though, is the EPP feature requiring merging of an XP in Spec, DeP, reflecting the ill-formedness of a DeP with an empty specifier position: **de* NP.

¹⁸ An analysis of *de* as *n* was already proposed by Niina Ning Zhang (1999):

- (i) [_{DP} *nà* [_{NuMP} *sān* [_{ge} [_{nP} *mài yīnliǎo* *de*]]]] *zǒu-le* (Zhang 1999: 38, (28))
 that 3 CL sell beverage DE leave-PER
 ‘Those three beverage sellers have left.’

However, given the interpretational differences observed in (36) for Spec,*nP* vs. Spec,DeP, an overall analysis of *de* as *n* cannot be successfully implemented (cf. Paul to appear b for further discussion).

¹⁹ Naturally, this is not to say that WALs excludes grammatical items from its features; however, upon closer scrutiny, the presentation of that grammatical item will only partly overlap with its analysis as a functional category in current syntactic theories. The category *Determiner* is a good example. Chapter 88 (section 3) on the “order of demonstrative and noun” makes reference to the analysis of the English definite article *the* and demonstrative pronouns as *determiners*, but not to genitive *’s* and *of* equally assigned determiner status in English. Furthermore, article-less languages are said to lack that category. However, both Chinese and Japanese provide evidence for a functional projection D(e)P above the lexical domain NP, headed by *de* and *no*, respectively.

- b. *Erika no boosi*
 Erika NO hat
 ‘Erika’s hat’
- c. $[_{DP} yuubokumin [_{D'} [_{D'} no] [_{nP} t_{yuubokumin} [_{n'} [_{DP} tosi [_{D'} no [_{NP} t_{tosi} hakai]]]]]]]]]$
 nomad NO city NO destruction
 ‘the nomads’ destruction of the city’ (Whitman 2001: 85, [14])

However, as argued for in Whitman (2001), the item *no* is best analysed as realizing the functional category *Determiner* taking the NP complement to its right. As a consequence, the nominal projection in Japanese is as mixed as in Chinese, displaying a head-final NP and a (recursive) head-initial DP. The pervasive cross-categorial harmony postulated for Japanese thus does not exist to the extent assumed so far; on the contrary, in addition to *no*, the projection headed by the nominative *ga* turns out to be head-initial as well (cf. Whitman 2001).

To summarize, taking into account functional categories in addition to lexical categories often results in quite a different picture, not only because correlations were initially established between the verb and other, exclusively lexical categories, but especially because taking into account functional categories amounts to introducing the notion of *hierarchy*, contrasting with the purely linear approach adopted in WALS. In other words, the major problem with data bases like WALS is *not* so much their being “surfacey”; on the contrary, the cross-categorial correlations obtained are often precisely not made on the basis of surface, but by systematically glossing over grammatical items such as *de* in Chinese. As a consequence, head-final NPs with an adjectival or nominal modifier ‘A/N N°’ (cf. [39a], [39b]) are incorrectly treated as on a par with head-initial DPs of the form ‘XP *de* NP’, for the simple reason that among many other phrases (QP in [38a], PP in [38b] etc.), XP can also be an adjective or a noun (cf. [38c] and [38d]):

- (38) a. sān-ge $[_{QP} wǔ suì] de háizi$
 3 -CL 5 year DE child
 ‘three five-year old children’
- b. $[_{PP} guānyú tiānwénxué] de zhīshì$
 about astronomy DE knowledge
 ‘knowledge about astronomy’
- c. $yī zhāng [_{DeP} mùtóu [_{De'} de [_{NP} zhuōzi]]]$
 1 CL wood SUB table
 ‘a wooden table’
- d. $yī jiàn [_{DeP} zāng/ gānjìng [_{De'} de [_{NP} yīfu]]]$
 1 CL dirty/ clean dress
 ‘a dirty/clean dress’
- (39) a. $yī jiàn [_{NP} zāng/ gānjìng yīfu]$
 1 CL dirty/ clean dress
 ‘a dirty/clean dress’
- b. $yī zhāng [_{NP} mùtóu zhuōzi]$
 1 CL wood table
 ‘a wooden table’

While it is comprehensible that data bases such as WALS or TerraLing aiming in a first place at a large quantitative coverage do not cover subtle semantic differences of the type observed for ‘A/N N°’ vs. ‘A/N *de* NP’, it is nevertheless indispensable to take into account the existence of two different structures for nominal projections, with and without *de*.

In any case, given the discussion in the following section where the concept of cross-categorial harmony is “deconstructed”, i.e. shown not to be a principle of grammar, the question whether functional categories should in the end be included in “calculating” cross-categorial harmony” or not turns out to be an idle one.

8.4.2. Deconstructing cross-categorial harmony as a principle of grammar

8.4.2.1. Newmeyer (2005): “The irrelevance of typology for grammatical theory”²⁰

As pointed out by Newmeyer (2005: 38), generative grammar became explicitly interested in typology with the introduction of the *Principles and Parameters* model initiated by Chomsky’s (1981) *Lectures on government and binding*. The main idea was to account for cross-linguistic variation by a limited set of parameters incorporated into Universal Grammar. The parameter most closely linked to the concept of cross-categorial harmony was the *Head parameter* (cf. Stowell 1981) which states that in a given language complements are consistently to the right or to the left of the head. English and Japanese are examples *par excellence*; whereas in English, complements systematically follow the relevant heads, in Japanese, complements systematically precede the relevant heads, giving rise to the observed clustering: verb – object order, adjective – complement order, prepositions etc. for English and object – verb order, postpositions etc. for Japanese.

Importantly, this head parameter was thought to be visible to the child learner, i.e. an English learning child would set the head parameter to the value “head-initial”, while a Japanese learning child would choose the value “head-final”. The head parameter thus represented the proposal within generative grammar to give the cross-categorial correlations observed by Greenberg a theoretical foundation, by formulating them as a principle of grammar, hence acquirable by the child. Note that typological consistency in terms of a uniform head directionality was assumed to hold at the level of D(eep) structure, whereas the often observed mixed head directionality on the surface (structure) was the result of optional rules [relating D-structure to surface structure] (cf. Newmeyer (2005: 59). Evidently, this mode of explanation became unavailable in the subsequent model of generative grammar that dispensed with the D-structure vs. S-structure distinction, i.e. the *Minimalist program* (cf. Chomsky 1995). In addition, it had become clear in the meantime that even with the D-structure vs. S-structure dichotomy the non-uniform head directionality observed for numerous languages could not be explained. The well-known two types of genitive in English, postnominal *of* and prenominal *’s*, illustrate such a case, for at no point in the derivation of *John’s book* will the genitive *’s* ever follow the noun and show the order noun – genitive as expected for a VO language (and exemplified by the *of* genitive: *the book of my favourite author*). The reverse case exists as well, i.e. languages that on the surface look more consistent than in their underlying D-structure. According to Newmeyer (2005: 110), German and Dutch are good examples here, because due to the requirement that the finite verb occupies the second position in main clauses, we obtain quite a lot of surface SVO sequences, consistent with the head complement order observed for e.g. nouns and prepositions. This contrasts with the underlying verb-final character, visible in subordinate clauses and in turn consistent with e.g. postpositions. Many more examples of the German type could be mentioned, i.e. languages where the mixed head directionality cannot be derived, irrespective of the level chosen to represent the relevant word order type (cf. Newmeyer 2005, section 3.3). Suffice it to point out that the problems for the head parameter just outlined were augmented by the observation that uniform or non-uniform head directionality was found to have no influence whatsoever on acquisition. Quite on the contrary, the acquisition of basic word order is quite early for “head-consistent” and “head non-consistent” languages alike; as reported in Newmeyer (2005: 100), French children display the correct order ‘subject verb adverb object’ (indicative of verb raising to a category above the vP) from the earliest multi-word utterances on (cf. a.o. Déprez and Pierce 1993; Meisel and Müller 1992), English children have the order ‘subject adverb verb object’ and never display verb raising (cf. a.o. Stromswold 1990,

²⁰ This section is based on chapter 3 of Newmeyer (2005) and adopts as heading the “deliberately provocative title” of his section 3.3 (Newmeyer 2005: 103). Cf. Newmeyer’s (2005) chapter 2 for extensive discussion of the numerous parameters proposed within (the successive versions of) generative grammar in order to capture cross-linguistic variation, such as the *Null subject parameter*, the parameter determining the directionality of case assignment and theta-role assignment (uniformly to the left or to the right) etc.

Harris and Wexler 1996), and German children manifest solid knowledge of V2 order (cf. a.o. Meisel 1990, Clahsen and Penke 1992, Poeppel and Wexler 1993).²¹ All this led to the conclusion that the head parameter cannot be part of the grammar to be acquired, given that it is not present in the data available to the child, but motivated by and based on cross-linguistic tendencies observed in typological studies.

8.4.2.2. Whitman (2008): Greenberg's (1963) universals revisited

Like Kayne (1994) and Newmeyer (2005), Whitman (2008) rejects the head parameter as part of universal grammar. He goes a step further and argues that Greenberg's (1963) universals in fact must be subdivided into three different classes of generalizations, only two of which are indeed potential universals and thus contrast with the third group, i.e. cross-categorical correlations.

Among the forty-five universals proposed by Greenberg (1963: 110–113), fifteen involve cross-categorical correlations, as exemplified by universals 3 and 4.

(40) a. Universal 3

Languages with dominant VSO order are always prepositional

b. Universal 4

With overwhelmingly greater than chance frequency, languages with normal SOV order are postpositional.

Irrespective of whether they present themselves as statistical (*with overwhelmingly greater than chance frequency*) or as absolute (*always*), the crucial property of cross-categorical correlations underlying the concept of cross-categorical harmony is that they “reference the internal properties of two or more categories irrespective of their relationship in a particular structure” (Whitman 2008: 234). In other words, the correlations postulated between SVO order and prepositions on the one hand, and that between SOV order and postpositions, on the other, are supposed to hold *in abstracto*, irrespective of whether a sentence actually contains an adposition or not. The underlying assumption is that cross-categorical correlations – based on the comparison of languages – enable the linguist to predict properties from the basic word order type itself, without e.g. ever having encountered any adposition in the language at hand.

As outlined above, it is this characteristic that makes it impossible for the child to know about and hence to acquire cross-categorical correlations. Furthermore, increasing the sample of languages examined leads to their invalidation; as seen in (34) above, WALS has fourteen OV languages with prepositions and forty-two VO languages with postpositions, thus adding to the one counter-example cited by Greenberg (1963: 103) himself (cf. Whitman 2008: 238).

If cross-categorical correlations are not part of the synchronic grammar to be acquired by a child, how can we then explain their relative statistic weight? According to Whitman (2008), the key to this statistical predominance is to be found in language change. More precisely, if languages consistently reanalyse adpositions from verbs, we obtain prepositions for VO languages and postpositions for OV languages, the adpositions maintaining the hierarchical relation between head and complement of their verbal source (cf. Whitman's 2000 *Conservancy of structure constraint* discussed in section 2.2.2.3 above). However, if adpositions are reanalysed from both verbs and nouns, as in the case of Chinese, we obtain a “mixed” category adposition with prepositions and postpositions; the latter naturally are not verb patterners, hence disharmonic with VO order.²²

Visibly, reanalyses from a verbal source are common enough across (time and) languages to have been noted as a typological tendency since Greenberg (1963). On the other hand, reanalyses from non-verbal sources are attested as well, as witnessed by the “exceptions” to cross-categorical harmony; the simple fact that these “exceptions” increase with the number of languages examined in typological surveys puts forward the fundamentally statistical nature of cross-categorical harmony. This is precisely

²¹ Chinese sentence-final particles, realizing different types of head-final CP (cf. chapter 7 above), are acquired well before the age of two years, against the background of SVO order (cf. Thomas Hun-tak Lee et al. 2005).

²² Note that there are *no* denominal prepositions in Chinese, as to be expected under Whitman's analysis and against the background of the head-finality of NP throughout the history of Chinese up to the present.

what we observe in the case of Chinese: since Chinese was not included in the language sample on the basis of which (most of) these correlations were established, it is not surprising that many of them do not hold for Chinese, such as the association of VO languages with exclusively sentence-initial complementisers.

Unlike cross-categorical correlations, the two other classes of generalizations in Greenberg (1963), i.e. the *hierarchical generalizations* and *derivational generalizations*, refer to the position of two or more categories within a *single* structure and might indeed represent potential universals acquirable by the child learner as part of synchronic grammar. In Whitman's (2008: 234) terms, "*hierarchical generalizations* describe the relative position of two or more categories in a single structure", and "*derivational generalizations* describe the relative position of two or more categories at the end of a derivation".

Universals 14 illustrates a *hierarchical generalization*

(41) Universal 14

In conditional statements, the conditional clause precedes the conclusion
as the normal order in all languages.

While this universal is formulated in terms of linear order, it can be transposed into a hierarchical structure, where the conditional clause occupies a higher position than the consequent clause. More precisely, this is possible when at an appropriate level of representation conditionals are generated in the specifier position of a projection that contains the consequent clause:

(42) [_S If conditionals are specifiers of S' [_S they precede the consequent]]

(Whitman 2008: 235, [3])

As emphasized by Whitman (2008: 235), the notion of "appropriate level of representation" is important here, because as is well-known, universal 14 does not hold as an absolute universal about surface order across languages.

The notion of "appropriate level of representation" is also crucial for derivational generalizations, where the relative position between two categories is obtained as the result of movement, as exemplified in universal 6:

(43) Universal 6

All languages with dominant VSO order have SVO as an alternative
or as the only alternative order.

Positing an underlying SVO order, VSO is derived by verb raising over the subject. The alternative order SVO mentioned by Greenberg is expected in contexts where verb raising is blocked, as is the case in non-finite clauses (cf. a.o. Emonds 1988, McCloskey 1991). Universal 6 thus reflects the mapping between two levels of representation which may or may not involve movement.

Whitman (2008) sheds a new light on the universals proposed by Greenberg (1963) and demonstrates their heterogeneity. Only hierarchical and derivational generalizations turn out to be potential universals, hence principles of synchronic grammar, whereas cross-categorical generalizations are the result of language change and hence of a statistical nature. Accordingly, cross-categorical harmony presents a statistical tendency (observable for the linguist in crosslinguistic comparison); it is not a principle of grammar to be acquired by the child learner.

8.4.3. Interim summary

While the knowledge of different languages is important for the linguist, this type of knowledge is not available for the child and hence does not play any role in language acquisition. As a consequence, statistical patterns obtained from language comparison such as cross-categorical (dis) harmony are not part of (universal) grammar, i.e. a child does not know (nor care) whether the language s/he is acquiring is a harmonic or disharmonic one. This is confirmed by acquisition studies showing that so-called disharmonic languages do not present more difficulties for the child learner than so-called harmonic languages (cf. the references in section 8.4.2.1 above).

8.5. Conclusion

This chapter has provided extensive evidence showing that the disharmonic nature of Chinese is real and cannot be remedied. Chinese thus confirms Whitman's (2008) position that cross-categorical generalizations are not part of universal grammar, but the result of well-documented patterns of language change, hence statistical in nature. Exceptions to "harmonic" situations as amply illustrated by Chinese are therefore precisely what we expect; they arise when the historical origin of an item is different from the one observed in the languages having served as the basis for the generalization.

Given that cross-categorical harmony is not a principle of grammar, but an observation obtained by the linguist when comparing languages, it cannot and must not be used as an (often tacit) evaluation metric for competing synchronic analyses in a given language. In other words, an analysis leading to a "disharmonic" situation is as sound as one leading to a "harmonic" situation.

Furthermore, disharmonic states are not "unstable" and liable to change to "more stable harmonic" ones. While this follows on principled grounds (given the "extra-grammatical" status of cross-categorical harmony) and in fact does not need any "proof", Chinese with its long-documented history comes nevertheless in handy. For example, the combination of VO order, head-final NP and prepositions is attested existed since the earliest texts (13th c. BC), that of VO order and sentence-final CP since the 6th c. B.C.; as for prepositions and postpositions they have co-existed for nearly 2000 years now, i.e. since the 2nd c. (cf. Djamouri & Paul 1997, 2009; Djamouri/Paul/Whitman 2013 a, b).

Notwithstanding the "extra-grammatical" status of cross-categorical harmony and the fact that most generative syntacticians will subscribe to the role of acquisition as the cornerstone of linguistic theorizing (insofar as any theory must be compatible with the constraints observed for language acquisition), they nevertheless differ in the role they assign to typology. Only a few endorse the radical position defended by Newmeyer (2005) and Whitman (2008), which is the one adopted here, viz. that cross-categorical harmony and with it the head parameter are not principles of grammar and should therefore not be built into a syntactic theory. On the contrary, quite a few endeavour to integrate results from typological surveys (mostly cross-categorical correlations) into the syntactic theory itself.

For example, the "disharmony" between VO word order and a head-final CP plays a major role in Biberauer, Holmberg and Roberts' (2007, 2008) *Final-over-final constraint* (FOFC), which – presented as a principle of (universal) grammar – excludes structures where a head-final projection dominates a head-initial one (cf. section 8.4.1 above). Given that a number of VO languages – among them Mandarin Chinese – display sentence-final particles (SFPs), which violate the purportedly universal FOFC when analysed as complementisers, Biberauer et al. claim that clause-final particles are "categorially deficient" and therefore do not count as evidence against the FOFC. However, as argued for in chapter 7, the fixed ordering 'TP < low CP < ForceP < AttitudeP' in the Chinese split CP can be neatly captured in terms of selectional restrictions imposed by the SFP as heads on their complement (i.e. TP or a phrase headed by an SFP of a lower subprojection). In other words, there is nothing deficient in Chinese SFP, but they select and project like other heads and must therefore be taken into account.

When discussing circumpositional phrases in the VO language Gungbe, which seem to have the same format as circumpositional phrases in Chinese, i.e. [_{PP} Prep [_{PostP} DP Postp]], Cinque (2010: 15, footnote 9) suggests an analysis that avoids postulating the category postposition and motivates this preference with the cross-categorical disharmony between postpositions and VO languages.²³ As amply illustrated in chapter 4 above, there is no way of economizing the category postposition in Chinese.

Last, but not least, in an article explicitly addressing the tension between (mostly functional) typological studies and formal syntactic theories Baker and McCloskey (2007) express their belief in the importance of the head parameter and their hope that other parameters of that kind will emerge.

More scholars could be mentioned, but the small sample above should suffice to illustrate the great influence the concept of cross-categorical harmony has had in the past and is still exerting, to the point that it has incorrectly been assigned the status of a principle of universal grammar.

²³ "If the phrase final complex prepositions 'under', 'beside', and so on of Gungbe and other such languages are not P heads but phrasal modifiers of a silent head PLACE, then their exceptionality with regard to Greenberg's observation that postpositional languages are not verb initial disappears [...]." Cinque (2010: 15, footnote 9).

References

- Abney, Steven Paul (1987). The English noun phrase in its sentential aspect. Ph.D. diss., MIT, Cambridge, Mass.
- Baker, Mark C. and Jim McCloskey (2007). On the relationship of typology to theoretical syntax. *Linguistic Typology* 11: 273–284.
- Biberauer, Theresa, Anders Holmberg and Ian Roberts (2007). Disharmonic word order systems and the Final-over-Final Constraint (FOFC). In *Proceedings of XXXIII Incontro di Grammatica Generativa*, Antonietta Bisetto and Francisco Barbieri (eds.), 86–105. Bologna: Dipartimento di Lingue e Letterature Straniere Moderne.
- Biberauer, Theresa, Anders Holmberg and Ian Roberts (2008). Structure and linearization in disharmonic word orders. In *Proceedings of the 26th West Coast Conference on Formal Linguistics*, Charles B. Chang and Hannah J. Haynie (eds.), 96–104. Somerville, MA: Cascadia Proceedings Project.
- Biberauer, Theresa, Glenda Newton, and Michelle Sheehan (2009). Limiting synchronic and diachronic variation and change: The Final-over-Final Constraint. *Language and Linguistics* 10 (4): 701–743.
- Clahsen, Harald and Martina Penke (1992). The acquisition of agreement morphology and its syntactic consequences: New evidence on German child language from the Simone-corpus. In: *The acquisition of verb placement: Functional categories and V2 phenomena in language acquisition*, Jürgen Meisel (ed.), 181–224. Dordrecht: Kluwer.
- Chomsky, Noam (1981). *Lectures on government and binding*. Dordrecht: Foris.
- Chomsky, Noam (1995). *The minimalist program*. Cambridge, Mass.: MIT Press.
- Cinque, Guglielmo (2010). Mapping spatial PPs: an introduction. In *Mapping Spatial PPs. The Cartography of Syntactic Structures, Vol.6*; Guglielmo Cinque and Luigi Rizzi (eds.), 3–25. Oxford: Oxford University Press.
- Déprez, Viviane and Amy Pierce (1993). Negation and functional projections in early grammar. *Linguistic Inquiry* 24: 25–67.
- Djamouri, Redouane and Waltraud Paul (1997). Les syntagmes prépositionnels en *yu* et *zai* en chinois archaïque. *Cahiers de Linguistique Asie Orientale* 26, 2: 221–248. [Electronic version available at : <http://crlao.ehess.fr/document.php?id=58>].
- Djamouri, Redouane and Waltraud Paul (2009). Verb-to-preposition reanalysis in Chinese. In *Historical Syntax and linguistic Theory*; Paola Crisma and Giuseppe Longobardi (eds.), 194–211. Oxford: Oxford University Press.
- Djamouri, Redouane, Waltraud Paul, and John Whitman (2009). Harmonic disharmony: The case of Chinese adpositions. *Conference on theoretical approaches to disharmonic word orders*. University of Newcastle, May 30 – June 1, 2009.
- Redouane Djamouri, Waltraud Paul, and John Whitman (2013a). Syntactic change in Chinese and the argument–adjunct asymmetry. In *Breaking down the barriers: Interdisciplinary studies in Chinese linguistics and beyond*; Guangshun Cao, Hilary Chappell, Redouane Djamouri, and Thekla Wiebusch (eds.), vol. 2, 577–594. [*Language and Linguistics monograph series*] Taipei: Academia Sinica.
- Djamouri, Redouane, Waltraud Paul, and John Whitman (2013b). Postpositions vs. prepositions in Mandarin Chinese: The articulation of disharmony. In *Theoretical approaches to disharmonic word order*, Theresa Biberauer and Michelle Sheehan (eds.), 74–105. Oxford: Oxford University Press.
- Dryer, Matthew S (1992). The Greenbergian word order universals. *Language* 68 (1), 81–138.
- Dryer, Matthew S. (2008a). Position of polar question particles. *The World Atlas of Language Structures Online*, chapter 92. eds. Martin Haspelmath, Matthew S. Dryer, David Gil & Bernard Comrie. Munich: Max Planck Digital Library. [Available online at <http://wals.info/feature/92>. Accessed on 24.02.2010].
- Dryer, Matthew S. (2008b). Order of adverbial subordinator and clause. *The World Atlas of Language Structures Online*, chapter 94. eds. Martin Haspelmath, Matthew S. Dryer, David Gil & Bernard Comrie. Munich: Max Planck Digital Library. [Available online at <http://wals.info/feature/94>. Accessed on 24.02.2010].
- Dryer, Matthew S. (2009). The branching direction theory revisited. In *Universals of Language today*. S. Scalise, E. Magni, and A. Bisetto (eds.), 185–207. Berlin: Springer.

- Dryer, Matthew S. and Martin Haspelmath 2011. *The World Atlas of Language Structures Online*. Munich: Max Planck Digital Library. Available online at <http://wals.info>.
- Emonds, Joseph (1988). Word order in generative grammar. *Journal of Linguistic Research* 1: 33–54.
- Erlewine, Michael Yoshitaka (2007). A new syntax–semantics for the Mandarin *bǐ* comparative. M.A. Thesis, University of Chicago.
- Ernst, Thomas (1994). Functional categories and the Chinese *Infl*. *Linguistics* 32 (2): 191–212.
- Ernst, Thomas (2002). *The syntax of adjuncts*. Cambridge: Cambridge University Press.
- Fan Jiyan (1958). Xing-ming zuhe jian *de*-zi *de* yufa zuoyong [The grammatical function of *de* in ‘adjective noun’ phrases]. *Zhongguo yuwen* 1958, n° 5, pp. 213–217.
- Greenberg, Joseph H. 1963. Some universals of grammar with particular reference to the order of meaningful elements. In *Universals of language. Report of a conference held at Dobbs ferry, New York, April 13-15, 1961*; Joseph H. Greenberg (ed.), 73–113. Cambridge, Mass.: MIT Press.
- Harris, Tony and Ken Wexler (1996). The optional-infinitive stage in child English: Evidence from negation. In *Generative perspectives on language acquisition: empirical findings, theoretical considerations, and cross-linguistic comparisons*, Harald Clahsen (ed.), 1–42. Amsterdam: Benjamins.
- Hawkins, John A. (1980). On implicational and distributional universals of word order. *Journal of Linguistics* 16: 193–235.
- Hawkins, John A. (1982). Notes on cross-categorical harmony, X-bar, and predictions of markedness. *Journal of Linguistics* 18: 1–35.
- Hawkins, John A. (1990). A parsing theory of word order universals. *Linguistic Inquiry* 21: 223–262.
- Huang, C.-T. James (1982). *Logical Relations in Chinese and the theory of grammar*. Ph.D. diss., MIT, Cambridge, MA.
- Huang, C.-T. James (1988). *Wǒ pǎo de kuài* and Chinese phrase structure. *Language* 64 (2): 274–311.
- Huang, C.-T. James (1992). Complex predicates in control. In *Control and grammar*, Richard K. Larson, Sabine Iatridou, Utpal Lahiri, and James Higginbotham (eds.), 109–147. Dordrecht: Kluwer.
- Kayne, Richard S. (1994). *The antisymmetry of syntax*. Cambridge, Mass.: MIT Press.
- Lee, Hun-tak Thomas 1986. *Studies on quantification in Chinese*. Ph.D. diss, University of California at Los Angeles.
- Lee, Hun-tak Thomas et al. 2005. The acquisition of sentence-final particles in Beijing Mandarin. Paper presented at the *Thirteenth Annual Meeting of the International Association of Chinese Linguistics*, University of Leiden, June 9–11, 2005.
- Li, Yen-Hui Audrey (1990). *Order and constituency in Mandarin Chinese*. Dordrecht: Kluwer.
- Lu, Jianming (1985). Guānyú xiàndài hànyǔ lǐ de yíwèn yǔqìcǐ [On question particles in contemporary Chinese]. *Yufa yanjiu he tansuo* 3: 233–246.
- Lu, Peng (2003). La subordination adverbiale en chinois contemporain. PhD diss., University Paris 7.
- Lu, Peng (2008). *Les phrases complexes en chinois*. Beijing: Waiwen chubanshe (www.flp.com.cn).
- Lü, Shuxiang et al. (eds.) 1980. *Xiàndài hànyǔ bābáicǐ* [Eight hundred words of Modern Mandarin]. Běijīng: Shangwu. [Revised edition used here dating from 2000].
- McCloskey, Jim (1991). Clause structure, ellipsis, and proper government in Irish. *Lingua* 85: 259–302.
- Meisel, Jürgen (1990). INFL-Ection, subjects and subject- verb agreement. In *Two first languages: Early grammatical development in bilingual children*, Jürgen Meisel (ed.), 237–298. Dordrecht: Foris.
- Meisel, Jürgen and N. Müller (1992). Finiteness and verb placement in early child grammars. In *The acquisition of verb placement: Functional categories and V2 phenomena in language acquisition*, Jürgen Meisel (ed.), 109–138. Dordrecht: Kluwer.
- Munaro, Nicola and Pollock, Jean-Yves (2005). Qu’est-ce que (qu)-est-ce-que ? A case study in comparative Romance interrogative syntax. *The Oxford handbook of comparative syntax*, Guglielmo Cinque and Richard S. Kayne (eds.), 542–606. Oxford: Oxford University Press.
- Newmeyer, Frederick J. (2005). *Possible and probable languages. A generative perspective on linguistic typology*. Oxford: Oxford University Press.
- Paul, Waltraud (2012). Why Chinese *de* is not like French *de*: A critical analysis of the predication approach to nominal modification. *Studies in Chinese Linguistics* 33 (3): 183–210.
- Paul, Waltraud (to appear b). The insubordinate subordinator *de* in Mandarin Chinese: Second take. In *The attributive particle in Chinese* [Frontiers in Chinese Linguistics Series], Tang, Sze-Wing (ed.). Beijing: Beijing University Press.

- Poeppl, David and Kenneth Wexler (1993). The full competence hypothesis of clause structure in early German. *Language* 69: 1–33.
- Rizzi, Luigi (1997). The fine structure of the left periphery. In *Elements of Grammar*, Liliane Haegeman (ed.), 281–337. Dordrecht: Kluwer.
- Sheehan, Michelle (to appear 2013). Explaining the Final-over-Final Constraint: formal and functional approaches. In *Theoretical Approaches to Disharmonic Word Orders*, Theresa Biberauer and Michelle Sheehan (eds.). Oxford: Oxford University Press.
- Simpson, Andrew (2001). Definiteness agreement and the Chinese DP. *Language and Linguistics* 2 (1): 125–156.
- Stowell, Timothy (1981). Origins of phrase structure. Ph.D. diss., MIT.
- Venneman, Theo (1973). Explanation in syntax. In *Syntax and semantics*, vol. 2, J. Kimball (ed.), 1–50. New York: Seminar Press.
- Stromswold, Karin (1990). Learnability and the acquisition of auxiliaries. Ph.D. diss., MIT.
- Whitman, John (2000). Relabelling. In *Diachronic syntax. Models and mechanisms*; Susan Pintzuk, George Tsoulas, and Anthony Warner (eds.), 220–238. Oxford: Oxford University Press.
- Whitman, John (2001). Kayne 1994: P. 143, Fn. 3. In *The minimalist parameter. Selected papers from the Open Linguistics Forum, Ottawa, 21-23 March 1997*, Galina M. Alexandrova and Olga Arnaudova (eds.), 77–100. Amsterdam: Benjamins.
- Whitman, John (2008). The classification of constituent order generalizations and diachronic explanation. In *Linguistic universals and language change*; Jeff Good (ed.), 233–252. Oxford: Oxford University Press.
- Zhang, Niina Ning (1999). Chinese *de* and the *de* construction. *Syntaxis* 2: 27–49.