Where "complex" sentences are not complex and "subordinate" clauses not subordinate: The case of Mandarin Chinese

Waltraud Paul wpaul@ehess.fr

December 2015

To appear in: Sandra Pereira, Clara Pinto, Fernanda Pratas (eds.). Coordination and Subordination: how they look and what they mean. Selected papers from CSI Lisbon 2014 [working title]. Newcastle upon Tyne: Cambridge Scholars Publishing

Abstract

Complex sentences in Modern Mandarin are a challenge for the traditional analysis of complex sentences into a "subordinate" and a "main" clause. Furthermore, the clause linking items constitute a heterogeneous group and are not necessarily "subordinating", either. A careful analysis of Mandarin complex sentences shows that "subordinate" clause - but also "adjunct" clause - are foremost semantic labels which do not necessarily reflect the structural hierarchy. The same holds for the labels "conjunctions" and "adverbial subordinator", as witnessed by the categorial heterogeneity of the corresponding items in Chinese. This class does not correspond to a unique syntactic category in English, either; items with lexical content such as *before*, *after* are in general analysed as prepositions (with a clausal complement), in contrast to *that* and *if* analysed as complementisers, while *whether* and *when* are not heads, but (wh-) phrases.

Where "complex" sentences are not complex and "subordinate" clauses not subordinate: The case of Mandarin Chinese*

Waltraud Paul

1. Introduction

Complex sentences in Mandarin Chinese are a challenge for the traditional division of complex sentences into a "subordinate" and a "main" clause.

When *subordinate* is taken as a syntactic term referring to a position that is lower than the main clause, this cannot apply to an adverbial clause such as a conditional clause in Chinese, whose default position is the sentence-initial Topic Phrase, more precisely SpecTopP. Since the "main clause", i.e. TP, is a complement to the head of TopP, Topic°, it is clearly lower than the adverbial clause: [TopP [adv.cl. ...] [Top', [Top° ...] [main cl.TP....]]]].

(1) [TopP [cond.clause] Rúguŏ dìtiĕ bà gōng] [Top' [TP wŏ bù chūqù]]]¹ if subway stop work 1SG NEG go.out 'If the subway is on strike, I won't go out.'

In fact, as argued for by Haiman (1978), conditional clauses in English (and other languages) can be analysed as topics from a semantic and morphosyntactic point of view. Furthermore, when Greenberg's (1963) universal 14 ("In conditional statements, the conditional clause precedes the conclusion as the normal order in all languages") is transposed into structural terms, the conditional clause ocupies a position higher than the consequent clause, as demonstrated by Whitman (2008: 235) with the following example:

(2) [S] If conditionals are specifiers of S' [S] they precede the consequent]].

The configuration in (2) is the same as in (1) where the conditional clause is hosted in the specifier of the same head that selects the consequent clause as complement.

Naturally, this does not imply a "reversal" of hierarchical relations such that now the main clause is subordinate to the adverbial conditional clause. Instead, for an adverbial clause *qua* sentential topic to occupy a position higher than the main clause TP in Chinese "complex" sentences " of the format in (1) means that the adverbial clause can serve as a (modifying) frame for the TP, on a par with "simple" topics such as *jīntiān* 'today':

(3) [TopP [NP Jīntiān] [Top' [TP WŎ bù chūqù]]]

Today 1SG NEG go.out

'Today I won't go out.'

Furthermore, if *complex* is understood as referring to syntactic complexity, a sentence with an adverbial clause as sentential topic is precisely not more complex structurally than the corresponding "simple" sentence with an adverbial NP or Adposition Phrase in SpecTopP; the only difference concerns the projection of the topic XP, i.e. a clause in (1) vs an NP in (3). In fact, the same observation holds for German, where adverbial clauses occupy the topic

^{*} This is a revised and extended version of my talk presented at CSI Lisbon in May 2014. I would like to thank the audience of that conference, in particular Caroline Heycock, for comments and questions. I am also very grateful to the editors of this volume for their careful attention. Any errors or shortcomings are mine.

¹ The following abbreviations are used in glossing examples: CL classifier; EXP experiential aspect; NEG negation; PERF perfective aspect; PL plural (e.g. 3PL = 3rd person plural); SFP sentence-final particle; SG singular; SUB subordinator; TOP particle realizing Top°.

position in the forefield (SpecCP), on a par with simple adverbs such as *heute* 'today', and thus do not increase structural complexity, either:

(4) $[CP{[clause Wenn die U-Bahn streikt]/[NP heute]}]$ $[C'[C^{\circ} bleibe]]$ [TP ich zu Hause]]] if the subway be on strike/ today stay I at home '{If the subway is on strike/today}, I stay at home.'

In addition, the clause linking items constitute a heterogeneous group as well and are not necessarily "subordinating" in the sense that they select a clausal complement. Instead, besides the categories adposition and complementiser, adverbs, i.e. XPs, likewise serve as "clause linkers". Again, this phenomenon is not limited to Chinese, but e.g. also holds for English: items with lexical content such as *before*, *after* are in general analysed as prepositions (with a clausal complement), in contrast to *that* and *if* analysed as complementisers, while *whether* and *when* are not heads, but phrases.

Based on a detailed analysis of Mandarin "complex" sentences, *subordinate clause*, *adjunct clause* and the like are shown to be foremost semantic labels that do not necessarily reflect the structural hierarchy. The same holds for the labels *conjunctions* and *adverbial subordinators*, which, as in English, do not identify a unique category in Chinese, either. Instead, they serve as cover terms for items belonging to different categories whose only common denominator is a "clause linking" function. In other words, all these terms are non-operational notions and should therefore be avoided for any language, *a fortiori* in cross-linguistic studies, because the *tertium comparationis* between the phenomena subsumed under the different labels cannot be guaranteed.

In order to avoid any confusion due to the hybrid semantic-syntactic nature of the terms encountered in the discussion of complex sentences, in the remainder of this article I use the dichotomy *adverbial clause* vs *main clause* and the term *clause linker*. These informal labels are chosen on purpose, because they do not preclude the appropriate syntactic analysis to be provided for each of the different phenomena involved, which includes the hierarchical position of the adverbial clause itself as well as its categorial identity (Adposition Phrase, CP, TP).

The structure of the article is as follows. Section 2 provides extensive evidence for adverbial clauses in the configuration 'adverbial clause - main clause' as sentential topics, i.e. occupying the sentence-initial topic position, SpecTopP. First, adverbial clauses are compatible with so-called "topic markers", i.e. particles realizing the head of TopP (§2.2.1). Second, adverbial clauses as topics are located in a position higher than the main clause, the latter being the complement of Topic°. This is confirmed by the binding (im)possibilities observed for pronouns and DPs occurring in the adverbial and main clause (§2.2.2). Third, the case where the adverbial clause follows the main clause as an afterthought can be demonstrated to involve a completely different structure from the default configuration where the adverbial clause as topic precedes the main clause (§2.2.3). Finally, multiple adverbial clauses as sentential topics are possible on a par with multiple DP topics (§2.2.4). Section 3 turns to the class of purpose and result adverbial clauses that do not precede, but follow the main clause. Evidence is provided to show that these adverbial clauses are located below the main clause predicate and therefore indeed structurally "subordinate". Section 4 discusses the categorial heterogeneity of clause linkers, which are in general referred to as "conjunctions", "adverbial subordinators" and the like. It offers precise analyses and shows the division into two big groups, viz. heads, i.e. adpositions and complementizers, on the one hand, and phrases, i.e. sentence-level adverbs, on the other. The consequences of this categorial heterogeneity for cross-linguistic comparisons using typological databases are briefly discussed in section 5, which also concludes the article.

2. Complex sentences in Chinese as topic - comment structures

2.1 Preliminaries

The specifier of TopP is the default position for adverbial clauses in general (conditional, causal, inferential, concessive, temporal clauses) (cf. Gasde and Paul 1996).² Importantly, *topic* is not used as a semantic notion here referring to given information, but in a strict syntactic sense: *topic* refers to a phrase XP occupying the sentence-initial topic position SpecTopP, which is hierarchically higher than the TP. Also note that the widespread assumption that a topic (exclusively) indicates "what the sentence is about" (and as such conveys given information, cf. Li and Thompson 1976: 462) does not make sense in the case of sentential topics. Instead, Chafe's (1976: 50-51) definition of topic as the "frame within which a sentence holds ... limit[ing] the applicability of the main predication to a certain restricted domain" is resorted to (cf. Paul 2015, ch. 6 for Chinese; cf. Bianchi and Frascarelli 2010 for Italian).

2.2 Adverbial clauses as sentential topics

In Chinese, it is the structural configuration 'sentential topic - TP' itself in the absence of any clause-linker (cf. (5), (7)) that gives rise to the parsing as a "complex" sentence of the form 'adverbial clause – main clause' (cf. Chao Yuen Ren 1968: 113; §2.12.5). The conditional interpretation (cf. (6a)) is the most prominent, i.e. obtained without any particular context, before the consequential (cf. (6b)) and the temporal interpretation (cf. (6c)). This is noted by Eifring (1993: 134) and Lu Peng (2003a: 59), who both make this observation without establishing a link, though, with the syntactic status of the adverbial clause as sentential topic (also cf. Zhou Shihong and Shen Li 2006: 125).

- (5) [TopP [adv.cl. Tā bù lái] [Top' [TP wǒ jiù zìjǐ qù]]] (Lu Peng 2003b: 59-60; 3SG NEG come 1SG then self go (55), (56); bracketing added)
- (6) a. Rúguǒ tā bù lái , wǒ jiù zìjǐ qù if 3SG NEG come 1SG then self go 'If he doesn't come, I'll go on my own.'
 - b. Jìrán tā bù lái , wǒ jiù zìjǐ qù since 3SG NEG come 1SG then self go 'Since he doesn't come, I'll go on my own.'
 - c. Tā bù lái de shíhòu, wǒ jiù zìjǐ qù 3SG NEG come SUB time 1SG then self go 'When he doesn't come, I go on my own.'

Concerning temporal adverbial clauses Chao Yuen Ren (1968: 113) shows that the perfective aspect suffix *-le* on the verb in combination with the structural configuration suffices to indicate posteriority (cf. (7a)), in the absence of the postposition *yihòu* 'after' (cf. (7b)).³

(7) a. [TopP [TP Wǒ chī-wán -le] [Top' [TP nǐ chī]]]

1SG eat-finish-PERF 2SG eat

'You eat after I have finished eating.'

² For purpose and result adverbial clauses, which follow the main clause, cf. section 3 below.

³ In the glosses, the categorial status of the clause linkers is already indicated, thus anticipating the systematic discussion of this issue in section 4.

b. [TopP [PostP [TP Wǒ chī-wán -le] yǐhòu] [Top' [TP nǐ chī]]]

1SG eat-finish-PERF after 2SG eat

'You eat after I have finished eating.'

The causal relation, however, requires an overt linker in either the adverbial or the main clause:

(8) Yīnwèi tā bù lái , suŏyǐ wŏ zìjǐ qù because 3SG NEG come therefore 1SG self go 'Because he's not coming, I'll go on my own.'

Examples (9) and (10) illustrate cases where a particular interpretation is favoured, which can be made explicit by adding the corresponding clause linkers (Eifring 1993: 135; (18), (19); 137, (22)):

- (9) a. Wŏmen bù hăn, shéi hăn? Wŏmen bù gàn, shéi gàn? 1PL NEG shout who shout 1PL NEG do who do 'If we don't shout, who's going to shout? If we don't do it, who's going to do it?'
 - b. Yàoshi wǒmen bù hǎn, nà shéi hǎn? Yàoshi wǒmen bù gàn, nà shéi gàn? if PL NEG shout so who shout if 1PL NEG do so who do 'If we don't shout, then who's going to shout? If we don't do it, then who's going to do it?'
- (10) (Jìrán) nǐ yǒu nàme duō hǎo gē, zěnme bù chàng? since 2SG have so much good song how NEG sing 'Since you have so many good songs, why don't you sing them?'

The preceding examples all confirm the importance of the syntactic configuration itself where the adverbial clause *qua* sentential topic provides the frame for the main clause TP and where clause linkers can be absent.

- 2.2.1 The compatibility of adverbial clauses with topic markers
 Being sentential topics, adverbial clauses are compatible with particles (*ne*, *me* etc.) realizing
 the head of TopP, on a par with nominal topics. (In fact, any XP NP, DP, QP, PrepP, PostP,
 adverbs can occur in TopP; cf. Paul 2015, ch. 6 for further discussion)
- (11) [TopP [DP Lǎo Zhāng]i [Top' [Topo ne] [TP tāi kěn bāngzhù rén]]] Lao Zhang TOP 3SG be.willing help person 'Lao Zhang, he is willing to help people.' (Lü Shuxiang 1986: 334)
- (12) [TopP [adv.cl. Tā bù zài de shíhòu] [Top' ne [wǒ jiù yī ge rén qù kàn diànyǐng]]] 3SG NEG be SUB time TOP 1SG then 1 CL person go watch movie 'When he is not here, I go to the movies on my own.'
- (13) [TopP [adv.cl. Jìrán tā bù lái] [Top' me [wǒ jiù zìjǐ qù]]] since 3SG NEG come TOP 1SG then self go 'Since he doesn't come, I'll go on my own.

Ne is broadly comparable to English 'as for', 'concerning'; like the latter it can, but need not indicate the turn to a new topic. The presence of *ne* in (12) e.g. implies prior mentioning of other people (un)willing to help.

2.2.2 The high position of the topic

Adverbial clauses as topics are located in a position higher than the main clause, itself selected as complement by Topic°. This hierarchy is confirmed by the binding (im)possibilities observed for pronouns and DPs occurring in the adverbial and main clause. As illustrated in (14b) - (16b), a pronoun subject in the adverbial clause cannot be co-indexed with a proper name subject in the main clause $\begin{bmatrix} TopP & [adv.c] \end{bmatrix}$. Pronoun $\begin{bmatrix} Top & [TP] \end{bmatrix}$.

- (14) a. Rúguŏ Zhāngsān_i yŏu kòng, tā_i jiù xiǎng qù hǎibiān if Zhangsan have time 3SG then want go seaside 'If Zhangsan has time, he wants to go to the seaside.'
 - b. Rúguŏ tā*i/j yŏu kòng, Zhāngsāni jiù xiǎng qù hǎibiān if 3SG have time Zhangsan then want go seaside ('If he*i/j has time, Zhangsani wants to go to the seaside.')
- (15) a. Yīnwèi Zhāngsān_i yǒu kòng, suǒyǐ tā_i jiù xiǎng qù hǎibiān because Zhangsan have time therefore 3SG then want go seaside 'Because Zhangsan has time, he wants to go to the seaside.'
 - b. Yīnwèi tā*_{i/j} yǒu kòng, suǒyǐ Zhāngsān_i jiù xiǎng qù hǎibiān because 3SG have time therefore Zhangsan then want go seaside ('Because he*_{i/j} has time, Zhangsan_i wants to go to the seaside.')
- (16) a. Suīrán Zhāngsān_i yǒu kòng, tā_i háishi bù xiǎng qù hǎibiān although Zhangsan have time 3SG still NEG want go seaside 'Although Zhangsan has time, he still doesn't want to go to the seaside.'
 - b. Suīrán tā*_{i/j} yǒu kòng, Zhāngsān_i háishi bù xiǎng qù hǎibiān although 3SG have time Zhangsan still NEG want go seaside ('Although he*_{i/i} has time, Zhangsan_i still doesn't want to go to the seaside.')
- (17) a. Jìrán Zhāngsān_i hěn yǒuqián, nàme tā_i jiù yīnggāi jīngcháng qù guówài lǚxíng since Zhangsan very rich so 3SG then should often go abroad travel 'Since Zhangsan is very rich, he should often go abroad travelling.'
 - b. Jìrán tā*i/j hěn yǒuqián, nàme Zhāngsān; jiù yīnggāi jīngcháng qù guówài lǚxíng since 3sG very rich so Zhangsan then should often go abroad travel ('Since he*i/j is very rich, Zhangsan; should often go abroad travelling.')

This is somewhat unexpected, given that the subject in the adverbial clause does not c-command the subject in the main clause. Accordingly, co-indexation between $Zh\bar{a}ngs\bar{a}n$ and $t\bar{a}$ 'he' in (14b) - (17b), above, cannot be ruled out as a violation of Principle C. The same problem holds for (18), notwithstanding cases such as (19) showing that Principle C holds in Chinese as well and excludes binding of a referential expression by a c-commanding NP:

- (18) *[TP [DP Tāi de māma] yīxiàng dōu tǎnhù Zhāngsāni]
 3SG SUB mother always all protect Zhangsan
 ('Hisi mother always protected Zhangsani.')
 (Huang, Li and Li 2009: 335, (25))
- (19) *Tā_i yǐwéi [wǒ bù xǐhuān Zhāngsān_i] 3SG think 1SG NEG like Zhangsan (*'He_i thinks I don't like Zhangsan_i.')

Faced with these conflicting data, Huang, Li and Li (2009: 335) introduce a separate principle, originally proposed by Lasnik (1991), which they call *Principle D*:⁴

(20) Principle D':

A less referential expression may not bind, or weakly bind, a more referential expression.

"More/less referential" refers to the following referentiality hierarchy, with proper names and anaphors situated at the opposite ends: prop. name> demonstrative + NP > pronoun > anaphor. Concerning "weak" binding, this refers to a "weak" c-command relation, where α weakly c-commands β iff α is contained in a maximal projection that (weakly) c-commands β . (cf. Huang, Li and Li 2009, ch. 9.1.3 for further discussion; also cf. Huang 1982: 372ff where these cases were handled by "cyclic c-command"). Examples (14b) - (17b) are precisely cases involving Principle D; the subject pronoun $t\bar{a}$ in the adverbial clause weakly c-commands the subject in the main clause via the c-command relation holding between the adverbial clause in SpecTopP and the main clause.

2.2.3 Adverbial clauses as "afterthought"

When conditional, causal, and concessive clauses do not precede, but follow the main clause, they are clear cases of "afterthought", as evidenced by the "concluding" intonation of the main clause itself and the *più mosso* tempo in the first words of the afterthought adverbial clause; without the latter, main clause and afterthought adverbial clause would be parsed as two separate sentences (cf. Chao 1968: 116).⁵ Structurally, the adverbial clause is right-adjoined to the main clause (TP or CP) and thus does not present a "reversal" of the default configuration where the adverbial clause occupies Spec,TopP.

First, so-called correlative adverbs are excluded from the main clause, which contrasts with the situation where the main clause is preceded by the adverbial clause topic:

- (21) a. Zhāngsān (*jiù) xiǎng qù hǎibiān, rúguǒ tiānqì hǎo
 Zhangsan then want go seaside if weather good
 '(*Then) Zhangsan (*then) wants to go to the seaside, if the weather is good.'
 - b. Rúguŏ tiānqì hǎo , Zhāngsān jiù xiǎng qù hǎibiān
 if weather good Zhangsan then want go seaside
 'If the weather is good, then Zhangsan wants to go to the seaside.'

According to Huang, Li and Li (2009: 334), in Chinese, (i) is judged as "less worse" than (19) where the matrix subject $t\bar{a}$ 'he' is co-indexed with *Zhangsan* in the embedded clause.

⁴ The motivation for a separate principle besides Principle C is Lasnik's (1991) observation that the equivalent of (i) is acceptable in Thai and Vietnamese, both DPs involving the same degree of referentiality here:

⁽i) ?*Zhāngsan; yǐwéi [wǒ bù xǐhuān Zhāngsan;]

Zhangsan think 1sg NEG like Zhangsan

^{*?&#}x27;Zhangsan i thinks that I don't like Zhangsani.'

⁵ It is not clear why temporal clauses cannot appear as afterthoughts in sentence-final position.

- (22) a. (*suŏyĭ) Zhāngsān (*jiù) xiǎng qù hǎibiān, yīnwèi tiānqì hǎo therefore Zhangsan then want go seaside because weather good (*Therefore) Zhangsan (*then) wants to go to the seaside, because the weather is good.' (cf. (15a) above)
- (23) a. (*Nàme) wǒ (*jiù) zìjǐ qù, jìrán tā bù lái in.that.case 1sG then self go since 3sG NEG come '(*Then) I'll go on my own, given that he doesn't come.'
 - b. Jirán tā bù lái , <u>nàme</u> wǒ jiù zìjǐ qù (=(13) above) as 3SG NEG come in.that.case 1SG then self go 'Since he doesn't come, I'll go on my own.'

As can be seen in the translations, correlative adverbs (*then*, *therefore* etc.) in English are likewise unacceptable in the main clause when followed by an afterthought adverbial clause.

A second argument showing the difference between adverbial clauses as sentential topics and adverbial clauses as afterthought is the incompatibility with topic markers observed for the latter (cf. (24b), (25b)):

- (24) a. [TopP [adv.cl. Rúguǒ tiānqì hǎo] [Top' [Topo ne], [TP Zhāngsān jiù xiǎng qù hǎibiān]]] if weather good TOP Zhangsan then want go seaside 'If the weather is good, Zhangsan wants to go to the seaside,.'
 - b. Zhāngsān xiǎng qù hǎibiān, rúguǒ tiānqì hǎo (*ne)
 Zhangsan want go seaside if weather good TOP
 'Zhangsan wants to go to the seaside, if the weather is good.'
- (25) a. [TopP [adv.cl. Rúguŏ tiānqì hǎo dehuà]
 if weather good C(-root)
 [Top' [Topo ne], [TP Zhāngsān jiù xiǎng qù hǎibiān]]]
 TOP Zhangsan then want go seaside
 'If the weather is good, Zhangsan wants to go to the seaside,.'
 - b. Zhāngsān xiǎng qù hǎibiān, rúguǒ tiānqì hǎo dehuà (*ne) Zhangsan want go seaside if weather good C(-root) TOP 'Zhangsan wants to go to the seaside, if the weather is good.'

Given that *ne* is the head of TopP and as such requires a phrase in its specifier (i.e. the topic) and a clausal complement to its right, its unacceptability in (24b) and (25b) is expected. Note in this context that afterthought adverbial clauses provide a nice test confirming the status of *dehuà* as a non-root C, given that the entire CP headed by *dehuà* appears in sentence-final position. (Cf. section 4.3 below for further discussion.)

Third, when the main clause itself is a CP, e.g. a yes/no question involving the sentencefinal C ma, it is particularly clear that the afterthought adverbial clause must adjoin to the main clause as a whole, i.e. to the right of the CP including ma (cf. (26a-b)). This contrasts with the sentence where the adverbial clause occurs in the topic position and where the entire sentence (i.e. TopP) is the complement of ma (cf. (27a)):

(26) a. [CP [TP Nǐ huì qù měiguó] ma], rúguǒ guójiā gěi nǐ jiǎngxuéjīn dehuà? 2SG will go US SFP if state give 2SG scholarship C(-root)

'Will you go to the US, if the state gives you a scholarship?'

- b. *[TP Nǐ huì qù měiguó], rúguǒ guójiā gěi nǐ jiǎngxuéjīn dehuà <u>ma</u>? 2SG will go US if state give 2SG scholarship C(-root) SFP
- (27) a. [CP[TopP Rúguŏ guójiā gĕi nǐ jiǎngxuéjīn dehuà] [TP nǐ huì qù mĕiguó]] ma]? if state give 2SG scholarship C(-root) 2SG will go US SFP 'If the state gives you a scholarship, will you go to the US?'
 - b. [CP[TopP [NP Míngnián] / [PostP wǔyuè yǐhòu] [Top' [TP nǐ huì qù měiguó]] ma]? next.year / May after 2SG will go US SFP 'Will you go to the US next year/after May?'

(27b) again illustrates the parallel between an adverbial clause and an adjunct phrase (NP or Adposition Phrase) in the topic position.

2.2.4 Multiple sentential topics

The analysis of adverbial clauses as sentential topics can also nicely account for the acceptability of several adverbial clauses, on a par with that of multiple DP topics (28) - (30). Multiple topics also highlight the limits of the "aboutness" definition of topics which clearly fails here, no heuristics being given to determine which of the topics should be singled out as the one that indicates what the sentence "is about" (cf. Paul 2015, ch. 6 for further discussion).

- (28) [TopP Zhōngguó, [TopP dà chéngshì, [TopP Shànghai, [TP jiāotōng bǐjiào luàn]]]] China big town Shanghai traffic relatively chaotic 'In China, among the big towns, in Shanghai, the traffic is rather chaotic.'
- (29) [TopP [Míngtiān de huìyì yánqī], [TopP [měi ge huìyuán], tomorrow SUB meeting postponement every CL member]

 [TP wǒ dōu tōngzhī-guo le]]]

 1SG all inform -EXP SFP

 'As for the postponement of tomorrow's meeting, every member, I have informed them.' (Xu and Liu 1998: 73; [6b])
- (30) [TopP Zhè jǐ nián], [TopP [p̄r̄pànhuì], [TP lǎohàn jiàn-duō le]]] this several year criticism.meeting old.man see-much SFP 'These last few years, criticism meetings, the old man has seen too many.' (Lü Shuxiang 1986: 334)
- (31) [TopP [adv.cl. Lǐsì hěn xiǎo de shíhou] [TopP [adv.cl. zhǐyào naǐnai zài jiā] Lisi very small SUB time only.if grandma be home [main-cl.-TP tā jiù hěn tīnghuà]]]

 3SG then very obedient
 'When Lisi was a child, only when grandma was at home was he obedient.'
- (32) [TopP [DP zhōumò de yěcān] [Top' ne [TopP [adv.cl. rúguǒ xià yǔ dehuà] weekend SUB picnic TOP if fall rain C(-root) [TopP nà [main cl. wŏmen jiù zhǐhǎo gǎi qí le]]]] in.that.case 1PL then must change date SFP 'As for our picnic this weekend, if it rains, then we'll be forced to postpone it.'

As illustrated in (32), a combination of different types of topics, i.e. DP, adverbial clause and adverb ($n\dot{a}$ 'so, then'), is likewise possible.

3. Adverbial clauses in sentence-final position

In contrast to the adverbial clauses examined so far whose default position is SpecTopP, purpose and result adverbial clauses appear after the main clause and are excluded from the sentence-initial position. The only exception are adverbial clauses headed by *wèile* 'in order to', 'so that', which can precede or follow the main clause (cf. (36)).

- (33) a. Mălì guānshàng chuānghù, yǐmiàn háizimen zháo liáng Mary close window lest children feel cold 'Mary closed the window so that the children would not catch a cold.'
 - b. *Yimiàn háizimen zháo liáng Mălì guānshàng chuānghù lest children feel cold Mary close window (Lu Peng 2003a: 32)
- (34) a. Mălì guānshàng chuānghù, yĭbiàn háizimen ānxīn shuì jiào Mary close window so.that children quiet sleep sleep 'Mary closed the window so that the children can sleep quietly.'
 - b. *Yĭbiàn háizimen ānxīn shuì jiào, Mălì guānshàng chuānghù so.that children quiet sleep sleep Mary close window (Lu Peng 2003b: 283)
- (35) a. Mălì wàngjì-le guān chuānghù, yĭzhì háizimen méi shuì-hǎo jiào Mary forget -PERF close window so.that children NEG sleep-good sleep 'Mary forgot to close the window, with the result that the children didn't sleep well.'
 - b. *Yĭzhì háizimen méi shuì -hǎo jiào, Mǎlì wàngjì-le guān chuānghù so.that children NEG sleep-good sleep Mary forget -PERF close window (Lu Peng 2003b: 288)
- (36) a. Wèile háizimen néng shàng xué, Mălì pīnmìng gōngzuò in.order.to children can attend school Mary desperately work 'In order for the children to be able to attend school, Mary works with all her might.'
 - b. Mălì pīnmìng gōngzuò, wèile háizimen néng shàng xué Mary desperately work in.order.to children can attend school 'Mary works with all her might, so that the children can attend school.' (Lu Peng 2003a: 32)

Naturally, the structural configuration is not the same when the *wèile*-clause precedes and when it follows the main clause. In the first case, the *wèile*-clause occupies the sentence-initial topic position and hence is compatible with *ne* realizing the head of TopP (cf. (37a)). In the second case (37b), however, neither the main clause nor the *wèile*-clause can be followed by *ne*, because neither is a topic:

- (37) a. Wèile háizimen néng shàng xué <u>ne</u>, Mălì pīnmìng gōngzuò⁶ in.order.to children can attend school TOP Mary desperately work 'In order for the children to be able to attend school, Mary works with all her might.'
 - b. Mălì pīnmìng gōngzuò (*ne), wèile háizimen néng shàng xué (*ne) Mary desperately work TOP in.order.to children can attend school TOP 'Mary works with all her might, so that the children can attend school.'

This contrast is as expected, because in (37a) the *wèile*-clause occupies the sentence-initial topic position, hence the possible presence of *ne*. In (37b), by contrast, the first clause represents the matrix TP and the *wèile*-clause occupies a TP-internal position below the matrix predicate. The configuration in (37b) holds for 'main clause - adverbial clause' sentences in general and, accordingly, *ne* is excluded here as well:

- (38) Mălì guānshàng chuānghù (*ne), yǐbiàn háizimen ānxīn shuì jiào (*ne) Mary close window TOP so.that children quiet sleep sleep TOP 'Mary closed the window so that the children can sleep quietly.'
- (39) Mălì wàngjì-le guān chuānghù (*ne), yǐzhì háizimen méi shuì-hǎo jiào (*ne) Mary forget -PERF close window TOP so.that children NEG sleep-good sleep TOP 'Mary forgot to close the window, with the result that the children didn't sleep well.'

The position of the adverbial clause below the matrix predicate is confirmed by the fact that negation of the matrix predicate may have scope over the adverbial clause (cf. (40i)), provided there is no pause indicated by the comma (an observation due to Qiu Yiqin):

- (40) Zhào Guó méiyǒu shōumǎi Qí Guó(,) yǐbiàn dǎ Lǔ Guó Zhao state NEG buy Qi state so.that attack Lu state
 - (i) 'It is not the case that the state of Zhao bribed the state of Guo in order to attack the state of Lu.' (i.e. the state of Zhao didn't intend to attack Lu at all).
 - (ii) 'The state of Zhao did not (need to) bribe the state of Guo in order to attack the state of Lu.' (i.e. the state of Zhao attacked Lu on its own).

More precisely, the subject in the matrix TP c-commands the adverbial clause; accordingly, co-indexation of referential expressions in the latter with a matrix subject pronoun is excluded by principle C:

(41) a. Zhāngsān_i méi tīngdào nàozhōng xiǎng,
Zhangsan NEG hear alarm.clock ring
yĭzhì tā_i yī jiào shuì -dào zhōngwǔ shí'èr diǎn
so.that 3SG 1 sleep sleep-arrive noon 12 o'clock

'Zhangsan didn't hear the alarm clock, with the result that he slept through until noon.'

⁶ Not all speakers accept *ne* here. They all do, however, accept sentences such as (i) where the *wèile*-clause is followed by a DP topic plus *ne*, thus indicating that the *wèile*-clause itself occurs in topic position:

⁽i) [TopP Wèile háizimen néng shàng xuế [TopP Mălì [Top' ne [TP tā pīnmìng gōngzuò]]]] in.order.to children can attend school Mary TOP 3SG desperately work 'In order for the children to be able to attend school, Mary, she works with all her might.'

b. Tā_i méi tīngdào nàozhōng xiǎng,
3SG NEG hear alarm.clock ring
yǐzhì Zhāngsān*_{i/j} yī jiào shuì -dào zhōngwǔ shí'èr diǎn
so.that Zhangsan 1 sleep sleep-arrive noon 12 o'clock
'He_i didn't hear the alarm clock, with the result that Zhangsan*_{i/j} slept through
until noon.' (based on Lu Peng 2003b: 316, (72))

As indicated, (41b) is only acceptable when ta 's/he' and Zhāngsān refer to different persons.

To summarize, in the sequence 'main clause - adverbial clause' the adverbial clause (purpose, result) is indeed syntactically subordinate insofar as it occupies a position below the matrix predicate. This differs from the case discussed in section 2 where the adverbial clause *qua* sentential topic occupies SpecTopP and serves as frame for the main clause.

4. The categorial heterogeneity of "conjunctions"

Conjunction, adverbial subordinator, etc. encountered in the discussion of "complex" sentences are further examples of semantically motivated terms which do not correspond to a unique syntactic category. This is well-established for English where, among the clause linkers, heads (complementizers that, if and prepositions before, after etc.) are distinguished from the XPs when, where etc.

In Chinese as well, clause linkers can be divided into XPs and heads. The former involve sentence-level adverbs which in Chinese can occur in two positions, before or after the subject, such as $r\'ugu\~o$, $y\~aosh\iu$ 'if', $j\~ir\'an$ 'since', $su\~ir\'an$ 'although' (cf. section 4.1). The latter include adpositions (e.g. prepositions $y\~inw\`e\iu$ 'because (of)', $w\`e\iu$ 'in order to, $y\~izh\iu$ 'so that'; postpositions $y\~ih\`ou$ 'after', $y\~iq\iu$ 'before'), on the one hand (cf. section 4.2.), and the complementizer $dehu\~a$, on the other (cf. section 4.3).

4.1 Sentence-level adverbs as clause linkers

Lu Peng (2003a, 2008: chapter 3.2) demonstrates in great detail that *rúguŏ*, *yàoshi* 'if', *suīrán* 'although', and *jìrán* 'since' are sentence-level adverbs displaying the same distribution as e.g. *xiǎnrán* 'obviously, naturally', *xìnghǎo* 'fortunately', *kěxī* 'unfortunately', which can either precede or follow the subject.⁷

(42) a. [Topp (Xìnghǎo) [TP wǒ (xìnghǎo) [AspP mài-le [nà fù huà]]] fortunately 1SG fortunately sell-PERF that CL painting 'Fortunately, I sold that painting.' (adapted from Lu Peng 2008: 164)

In pre-subject position, a sentence-level adverb such as *xìnghǎo* 'fortunately' can co-occur with a topic DP (here *nà-fū huà* 'that painting') in either order: *nà fū huà*, *xìnghǎo*,...or *xìnghǎo*, *nà fū huà*, ...

- (43) a. [TopP [Nà fù huà] [TopP xìnghǎo [TP wǒ [AspP mài-le ge gāo jià]]]]. that CL painting fortunately 1SG sell-PERF CL high price 'That painting, fortunately, I sold it at a high price.'
 - b. [TopP [Xìnghǎo] [TopP [nà fù huà] [TP Wǒ [AspP mài-le ge gāo jià]]]] fortunately that CL painting 1SG sell-PERF CL high price 'Fortunately, that painting, I sold it at a high price.'

⁷ 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 *rúguŏ* 'if' and *suīrán* 'although' as P/C-heads on a par with *yīnwèi* 'because', an analysis which remained unchallenged up to Lu Peng's (2003b) dissertation.

_

The same holds for both items when located within the TP below the subject, where they are likewise interchangeable:

- (44) 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

In Paul (2002, 2005), this phenomenon is argued to provide evidence for sentence-level adverbs occupying a sentence-internal topic position, on a par with sentence-internal DP topics ($n\grave{a}$ $f\grave{u}$ $hu\grave{a}$ 'this painting in (44)). In other words, Chinese can be shown to display a TP-internal left periphery above the vP, more precisely above negation and auxiliaries (cf. (45) below), akin to Belletti's (2004) proposal for Italian (for the differences between Italian and Chinese, cf. Paul 2015, ch. 6).

The analysis of $r\acute{u}gu\emph{o}$ 'if' as a sentence-level adverb is borne out by sentences (45) and (46) below, where $r\acute{u}gu\emph{o}$ 'if' has the same distribution as $x\grave{i}ngh\emph{a}o$ 'fortunately'. It can precede or follow the subject in the conditional clause; in each case, it is interchangeable with a topic DP, both occupying the specifier position of a (recursive) internal or external TopP. Like $x\grave{i}ngh\emph{a}o$ 'fortunately' (cf. (47)), $r\acute{u}gu\emph{o}$ 'if' is excluded below an auxiliary (cf. (45c)).

- (45) a. [ext.TopP [cond.cl.] Rúguŏ [TP nǐ [int.TopP [DP yīngyŭ kǎoshì] [AuxP néng kǎo ge dìyī]]]] if 2SG English exam can pass CL first [main-cl.TP wŏ 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. [ex.TopP [cond.cl. Nǐ [in.TopP rúguǒ [in.TopP [DP yīngyǔ kǎoshì] [AuxP néng kǎo ge dìyī]]]]

 2SG if English exam can pass CL first

 'If in the English exam you can pass as first,...'
 - c. [ex.TopP [cond.cl.] Ni [in.TopP [DP yIngyŭ kăoshi] [in.TopP rúguŏ néng (*rúguŏ) kăo ge diyī]]] 2SG English exam if can if pass CL first'If in the English exam you can pass as first,...'
- (46) [ext.TopP Qīmò kǎoshì [ext.TopP [cond.cl. (rúguǒ) [TP nǐ [int.TopP (rúguǒ) [DP yīngyǔ] term.end exam if 2SG if English (rúguǒ) [AuxP néng (*rúguǒ) kǎo ge dìyī]]]]] if can if pass CL first [main-cl.TP wǒ jiù jiǎnglì nǐ yī liàng xīn zìxíngchē]]] 1SG then award 2SG 1 CL new bicycle 'The final exam, if in English you can pass as first, I'll reward you with a new bicycle.' (Lu Peng 2003b: 188, (62))
- (47) [TP Wǒ [int.TopP [nà fù huà] [int.TopP xìnghǎo [AuxP néng (*xìnghǎo) mài ge gāo jià]]]]

 1SG that CL painting fortunately can fortunately sell CL high price 'Fortunately, I can sell that painting at a high price.'

^{&#}x27;I fortunately sold that painting at a high price.'

Accordingly, *rúguŏ* 'if' is not a head and the clause it occurs in is not its complement. Instead, *rúguŏ* is a sentence-level adverb. The same holds for *yàoshi* 'if', *suīrán* 'although', and *jìrán* 'since', not illustrated here for reasons of space.

4.2 Adpositions as clause linkers

The clause linkers in adverbial clauses that follow the main clause are all prepositions, as demonstrated by Lu Peng (2003b: 286-288).8 Accordingly, the entire TP-complement must follow the preposition and it is excluded for the subject to precede the preposition:

- (48) Mălì guānshàng chuānghù, (*háizimen) yǐbiàn háizimen ānxīn shuì jiào Mary close window children so.that children quiet sleep sleep 'Mary closed the window so that the children can sleep quietly.'
- (49) Mălì wàngjì-le guān chuānghù, (*háizimen) yǐzhì háizimen méi shuì-hǎo jiào Mary forget -PERF close window children so.that children NEG sleep-good sleep 'Mary forgot to close the window, with the result that the children didn't sleep well.' (Lu Peng 2003b: 288).

This also holds for the *wèile* clause, both in sentence-final and sentence-initial position:

- (50) a. (*Háizimen) wèile háizimen néng shàng xué, Mălì pīnmìng gōngzuò children in.order.to children can attend school Mary desperately work 'In order for the children to be able to attend school, Mary works with all her might.'
 - b. Mălì pīnmìng gōngzuò, (*háizimen) wèile háizimen néng shàng xué Mary desperately work children in.order.to children can attend school 'Mary works with all her might, so that the children can attend school.'

Adverbial clauses qua sentential topics can be headed by postpositions (cf. (51-52) and prepositions (cf. (53)):⁹

- (51) [PostP Wǔyuèfèn/ [TP tā bān jiā] yǐhòu] 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.'
- (52) [PostP [TP Tā dào zhōngguó] yǐlái] wŏmen yǐjjīng jiàn-le sān cì miàn 1SG arrive China since 1PL already see-PERF 3 time face 'Since he came to China, we have already met three times.'

Prepositions such as *yīnwèi* because' can be shown here to clearly differ from sentential adverbs such as *rúguŏ* 'if'. Given that *yinwèi* 'because' takes its clausal complement to the right, an XP preceding *yinwèi* constitutes an additional topic serving as frame for the main clause. In (53), this leads to a contradiction between the topic *zuótiān* 'yesterday' with *jīntiān* 'today' in the main clause TP:

_

⁸ For prepositions that exclusively select clausal complements and no DPs, i.e. *yĭbiàn* 'so that', *yĭmiăn* 'lest', *yĭzhì* 'with the result that', Lu Peng (2003: 290) uses the label *co-junction*.

⁹ For postpositions as an additional adpositional category in Chinese, cf. Djamouri, Paul, Whitman (2013).

- (53) *[TopP Zuótiān [TopP [PP yīnwèi Zhāngsān méi shōudào nà fēng xìn] yesterday because Zhangsan NEG receive that CL letter [main cl. wǒ jīntiān gĕi tā fā -le fèn chuánzhēn]]]

 1SG today for 3SG send-PERF CL fax (Lu Peng 2008: 131)
- (53) thus contrasts sharply with (54a) where *mingtiān* 'tomorrow' to the left of *rúguŏ* is not an additional main clause topic, but part of the conditional clause, as shown by its compatibility with *hòutiān* 'the day after tomorrow' in the main clause TP:
- (54) a. [Topp[cond.cl. Míngtiān rúguŏ [TP Zhāngsān hái méi shōudào nà fēng xìn]] tomorrow if Zhangsan still NEG receive that CL letter [TP wŏ hòutiān gĕi 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. [TopP[cond.cl. Rúguŏ [TP Zhāngsān míngtiān hái méi shōudào nà fēng xìn]]

 if Zhangsan tomorrow still NEG receive that CL letter

 [TP wŏ hòutiān gĕi 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.' (Lu Peng 2008: 183)

The acceptability of (54a) is thus on par with that of (54b) where *mingtiān* occurs to the right of *rúguŏ* and the subject DP and is therefore automatically construed as part of the conditional clause.

4.3 Complementizers as clause linker

Dehuà is a complementizer; whose constituency with the preceding complement clause is confirmed by its presence in the afterthought part (cf. 55b). Given that *dehuà* not only heads conditional (cf. (55)), but also inferential clauses (cf. (56)), its precise semantics is difficult to capture, whence my glossing it as "non-root C".

- (55) a. [TopP [CP(-root)] [TP Nǐ duì Lǐsì yǒu yìjiàn] dehuà]

 2SG towards Lisi have prejudice C(-root)

 [TopP nà [TP wǒmen bìxū zhǎo lìngwài yī ge rén]]]

 in.that.case 1PL need search else 1 CL person

 'If you are prejudiced against Lisi, then we need to look for somebody else.'
 - b. Zhāngsān xiǎng qù hǎibiān, [CP(-root) rúguǒ tiānqì hǎo dehuà] (= (25b) above) Zhangsan want go seaside if weather good C(-root) 'Zhangsan wants to go to the seaside, if the weather is good.'
- (56) [ForceP [TopP [CP(-root)] Jirán nǐ yào qù dehuà] [TP nǐ jiù qù]] ba] since 2SG want go C(-root) 2SG then go FORCE 'Since you want to go, go then!

The head-finality of CP in Chinese holds for the entire array of complementizers, which are realized by the so-called sentence-final particles (such as *ba* in (56)) in a three-layered split CP: Low CP<ForceP<AttitudeP (cf. Paul 2014; 2015, ch. 7 for further discussion). With the

exception of the low C in the lowest layer above TP, C-elements are restricted to root contexts in Chinese. Exclusively non-root Cs are relatively rare and so far *dehuà* seems to be the only one identified as heading adverbial clauses.

4.4 The "clause linking" function across categories

While heads are expected to have a clause linking function, this might at first sight seem less evident for sentence-level adverbs such as $r\acute{u}gu\check{o}$ 'if', despite the fact that English when, whether are likewise assigned XP, i.e. adverb status rather than head status. However, sentence-level adverbs in Chinese behave on a par with heads in establishing a precise semantic relation between an adverbial clause qua sentential topic and the main clause. This is particularly visible when questioning such a sentence containing an adverbial clause topic with $sh\grave{i}$ $b\grave{u}$ $sh\grave{i}$ 'be not be' = 'is it the case that':

- (57) a. ??Shì bù shì [TopP Lǐsì zuìjìn hěn máng, suǒyǐ Zhāngsān jiù be NEG be Lisi recently very busy therefore Zhangsan then qù zhǎo biérén bāng máng]?

 go search somebody.else help assistance
 - b. Shì bù shì [TopP yīnwèi Lǐsì zuìjìn hěn máng, suǒyǐ Zhāngsān jiù be NEG be because Lisi recently very busy therefore Zhangsan then qù zhǎo biérén bāng máng]? go search somebody.else help assistance 'Is it the case that because Lisi is very busy these days that Zhangsan will go and fetch somebody else to help?
- (58) a. ??Shì bù shì [TopP Lǐsì zuìjìn hěn máng, nàme Zhāngsān jiù be NEG be Lisi recently very busy in.that.case Zhangsan then huì qù zhǎo biérén bāng máng]?

 will go search somebody.else help assistance
 - b. Shì bù shì [TopP rúguǒ Lǐsì zuìjìn hěn máng, nàme Zhāngsān jiù be NEG be if Lisi recently very busy in.that.case Zhangsan then huì qù zhǎo biérén bāng máng]? will go search somebody.else help assistance 'Is it the case that if Lisi is very busy these days that Zhangsan will go and fetch somebody else to help? (Lu Peng (2003b: 68-69)

As pointed out by Lu Peng (2003b: 68-69), *shì bù shì* 'be not be' = 'is it the case that' has the entire sentence, i.e. TopP, in its scope; more precisely, it questions the validity of the relation between the adverbial clause topic and the main clause. This is only possible when this relation is made precise, either by a sentence-level adverb (cf. (58b)) or by having the adverbial clause selected by a preposition (cf. (57b)). While sentences (57a) and (58a) are not totally rejected, the mere relation 'frame topic - main clause' is nevertheless not precise enough to be questioned.

5. Conclusion

The detailed analysis of so-called "complex" sentences in Mandarin has demonstrated that "subordinate clause" and "main clause" are foremost semantic labels that do not necessarily

reflect the structural hierarchy. On the contrary, when occupying their default position, i.e. SpecTopP, so-called "subordinate" adverbial clauses in fact turn out to be located in a position higher than the main clause, itself the complement of Top°. As a matter of fact, this equally holds for other languages, among them German and English. For the V2-language German, the parallel with Chinese is rather straightforward, given that adverbial clauses occupy the (topic) position preceding the inflected verb. Concerning English, Haiman (1978) shows topics and conditional clauses to behave alike. The case of adverbial clauses as sentential topics also challenges the label of the resulting sentence as "complex", because the difference in projection of the XP in topic position (DP or AdpositionP vs. clause) does not increase the structural complexity of the sentence as a whole.

The situation is different, however, in the case of purpose and result clauses in Chinese which are embedded under the matrix predicate and hence may indeed be considered as structurally subordinate with respect to the latter.

The terms "(subordinating) conjunctions", "adverbial subordinator", etc. are likewise semantically motivated, as witnessed by the categorial heterogeneity of the corresponding items in Chinese: heads, i.e. adpositions and complementizers, on the one hand, and phrases, i.e. sentence-level adverbs, on the other. Note that this class does not correspond to a unique syntactic category in English, either; 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 complementizers, and *when* and *where* which are phrases hosted by Spec, CP. In other words, the terms "(subordinating) conjunctions", "adverbial subordinator" and the like are non-operational notions; they imply a homogeneous nature of the items subsumed, which in reality does not exist. Accordingly, they should be avoided in the analysis of any language.

This result has immediate consequences for typology and typological data bases such as the *World Atlas of Languages* (wals.info) and *Terraling* (terraling.com). Information presented here typically provides the directionality between a head and its complement for non-verbal categories in a given language, with the ultimate aim of establishing correlations with the main word order (VO, OV, etc.). The notion of "head" is thus crucial in these databases (even though this is rarely made explicit); nevertheless this does not prevent both databases to use semantically-based labels such as *adverbial subordinator*. Since the latter turns out to be a cover term for different syntactic categories, in particularly mixing heads (adpositions and complementizers) and <u>non</u>-heads (adverbs), there is no way to know whether the items examined can really be compared and whether there exists the *tertium comparationis* indispensable for cross-linguistic comparison.

References

- 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.siff.us.es/iberia/index.php/ij/article/view/23/19.
- Chafe, Wallace (1976). Givenness, Contrastiveness, Definiteness, Subjects and Topics. In *Subject and topic*, Charles N. Li (ed.), 25–55. New York: Academic Press.
- Chao, Yuen Ren. (1968). *A grammar of spoken Chinese*. Los Angeles: California University Press.
- Djamouri, R., W. Paul and J. Whitman. (2013). Postpositions vs. prepositions in Mandarin Chinese: The articulation of disharmony. In: *Theoretical approaches to disharmonic word order*, Biberauer & Sheehan (eds.). Oxford: OUP, pp. 74-105.
- Eifring, Halvor (1993). Clause combinations in Chinese. Ph. D. diss., University of Oslo.
- Gasde, Horst-Dieter and Waltraud Paul (1996). Functional categories, topic prominence, and complex sentences in Mandarin Chinese. *Linguistics* 34 (2): 263–294.
- Greenberg, Joseph H. (1963). Some universals of grammar with particular reference to the order of meaningful elements. In Greenberg, J.H. (ed.), *Universals of language. Report of a conference held at Dobbs Ferry, New York, april 13-15, 1961*. Cambridge, Mass.: MIT Press, pp. 73-113.
- Haiman, J. (1978). Conditionals are topics. Language 54(3): 564-589.
- Huang, C.-T. James (1982). *Logical relations in Chinese and the theory of grammar*. Ph.D. diss, MIT.
- Huang, C.-T. James, Y.-H. Audrey Li, and Yafei Li 2009. *The Syntax of Chinese*. Cambridge: Cambridge Unversity Press.
- Lasnik, Howard (1991). On the necessity of binding conditions. In *Principles and parameters in comparative grammar*, Robert Freidin (ed.), 7-28. Cambridge, Mass: MIT Press.
- 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.
- Lu, Peng (2003a). Les phrases complexes finales et conséquentielles en chinois mandarin contemporain. *Cahiers de Linguistique Asie orientale* 32, 1: 27-60.
- Lu, Peng (2003b). *La subordination adverbiale en chinois contemporain*. Ph.D. diss., University Paris 7.
- 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.
- 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 (2005). Low IP area and left periphery in Mandarin Chinese. *Recherches linguistiques de Vincennes* 33: 111-134.
- Paul, Waltraud (2014). Why particles are not particular: Sentence-final particles in Chinese as heads of a split CP. *Studia Linguistica* 68(1): 77-115.
- Paul, Waltraud (2015). *New perspectives on Chinese syntax* [Trends in Linguistics. Studies and Monographs 271]. Berlin: De Gruyter Mouton.
- Whitman, John (2008). The classification of constituent order generalizations and diachronic explanation. In Jeff Good (ed.), *Linguistic universals and language change*. Oxford: OUP, pp. 233-252.

- Xu, Liejiong & Danqing Liu (1998). *Huati de jiegou yu gongneng* [Topic: Structure and function]. Shanghai: Shanghai jiaoyu chubanshe.
- Zhou, Shihong & Shen, Li (2006). Ne₂ de gongneng, yongfa ji zai dui wai hanyu jiaoxue zhong de yingdui celüe [The function and use of ne₂ in the teaching of Chinese as a foreign language]. Shijie hanyu jiaoxue 2006, nr. 2: 119-128.