1. Introduction
The aim of this article is to offer a comprehensive overview of complex sentences in Mandarin Chinese and to provide a formal account of their syntax and semantics. We will use the dichotomy ‘adverbial clause vs main clause’ in order to refer to the component parts of a complex sentence. This is artificial insofar as the complex sentence qua matrix clause in fact subsumes the adverbial clause as one of its constituents, as is evident when replacing the adverbial clause in e.g. *If he doesn’t come, I’ll go there on my own* by a simple adverbial NP such as *tomorrow*: [[Matrix Cl *Tomorrow, I’ll go there on my own*]]. But this terminological distinction allows us to refer to each clausal domain separately and to divide complex sentences into different subtypes according to the relative order of its component clauses: (i) ‘adverbial clause - main clause’, (ii) ‘main clause - adverbial clause’, (iii) ‘matrix subject - adverbial clause - main predicate’, i.e. the case where the adverbial clause appears below the matrix subject and above the matrix predicate.

As mentioned in the introduction to this special issue, an adverbial clause - like a nominal projection - can be optionally followed by a so-called “pause particle” (cf. Chao 1968: 81-82; 118). Gasde & Paul (1996) analyzed these pause particles as realizing the head of the functional projection Topic Phrase, hosting the topic XP in its specifier, resulting in the following structural configuration:

(1) \[ \text{TopP} \left[ \text{DP} \text{Zhè gè rén} \right] \left[ \text{Top'} \left[ \text{Top° ne} \right] \right] \left[ \text{TP tā kěn bāngzhù rén} \right] \]

\[ 3\text{SG be.willing help people} \]

‘This person, he is willing to help others.’

(2) \[ \text{TopP} \left[ \text{cond.cl. Rúguó tā bù lái} \right] \left[ \text{Top'} \left[ \text{Top° ne} \right] \right] \left[ \text{TP wǒ jiù zìjǐ qù} \right] \]

\[ 1\text{SG then self go} \]

‘If he doesn’t come, then I’ll go on my own.’

However, an alternative analysis is possible, given the homophony between pause particles and sentence-final particles (SFPs). Since the latter are analyzed as complementizers in a head-final CP (cf. Paul 2014, Pan 2015a, 2017a, Pan & Paul 2016, Paul & Pan 2017), it is likewise feasible to parse *ne* in (1) and (2) as a complementizer, and the sentence-initial constituent as a CP:

(1’) \[ \text{TopP} \left[ \text{CP} \text{Zhè gè rén} \right] \left[ \text{C ne} ] \left[ \text{Top'} \left[ \text{Top° O} \right] \right] \right. \left[ \text{TP tā kěn bāngzhù rén} \right] \]

\[ 3\text{SG be.willing help people} \]

‘This person, he is willing to help others.’
(2') [TP main cl. [CP cond.cl. [TP Rūguō tā bù lái ] [c ne]]
   if 3SG NEG come SFP
   [TP main cl. wǒ jiù zìjǐ qù]]
   1SG then self go
   ‘If he doesn’t come, then I’ll go on my own.’

In (1’), the sentence-initial CP occupies SpecTopP, because the DP complement of C is interpreted as a topic. In other words, under this analysis, a topic DP turns out to be the complement of the C at hand; this CP occurs in the specifier position of TopP whose head position is not realized. By contrast, an adverbial clause CP is adjoined to the main clause TP and there is no TopP projection, as illustrated in (2’). The consequences of these two alternative analyses are discussed in detail in section 2.

Furthermore, in the remainder of this article, we provide - where useful - both parsing alternatives for complex sentences in Chinese, one within the “topic head scenario” (cf. (2)) and one within the “SFP scenario” (cf. (2’)). This is the first time that the principled availability of two analytic options is spelt out in detail. The reader should be warned immediately that we are not able to decide between these two alternative analyses. To provide a uniform analysis for complex sentences can therefore already be noted as one of the major challenges for future research.

The organization of this article is as follows. Section 2 presents in detail the topic head analysis and the SFP analysis and discusses their ramifications, both for syntax and semantics. Under the topic head analysis, the adverbial clause in SpecTopP and the particle, realizing Top°, do not form a constituent. Furthermore, two sets of partly homophonous particles are acknowledged to exist, i.e. topic heads and SFPs, i.e. complementizers. By contrast, under the SFP analysis, there is no separate category of overt topic heads, instead all particles are analyzed as SFPs, hence Cs, forming a constituent with the preceding adverbial clause. Whether the resulting adverbial CP is then adjoined to the main clause or rather located in SpecTopP (with an always covert Top°) in turn depends on one’s general assumptions about the semantics of topics

Section 3 discusses complex sentences displaying ‘adverbial clause - main clause’ order, where the adverbial clause comprises conditional, causal, concessive, inferential and temporal clauses. While for all these different types the sentence-initial position is clearly the default position, they can likewise occur in the sentence-final position, modulo certain syntactic constraints. The existence of these syntactic constraints will lead us to argue against a derivational relationship between the two observed orders. As for eventually associated semantic differences between the sentence-initial and the sentence-final position, they are shown to depend on the type of adverbial clause. In particular, not all adverbial clauses in sentence-final position are “unplanned” afterthoughts. This discussion is important with respect to adverbial clauses occurring exclusively in the sentence-final position, which are likewise observed in Chinese. These are the purposive, rationale and resultative ‘so that’ clauses not included here, but discussed extensively in Wei & Li (this volume, Part 3).

Section 4 turns to the complex set of data where the domain of the adverbial clause and the main clause cannot be simply “read off” the surface string, given that the conjunction does not occupy the sentence-initial position. The different sequences to be examined are:

(i) DP conjunction Ø…, [main clause DP …]
(ii) DP conjunction Ø…, [main clause Ø …]
(iii) DP conjunction DP…, [main clause Ø …]
(iv) DP conjunction DP…, [main clause DP …]
As to be demonstrated in detail, multiple parsings are available for each sequence, depending on the following factors: (i) presence/absence of a null subject; (ii) (non-) coindexation of the subjects in the adverbial and the main clause; and (iii) last - but not least - the still to be determined categorial status of conjunctions (complementizers vs adverbs). As far as we can see, the co-existence of these analytical possibilities has so far not been systematically pursued in the literature. Importantly, several parsings are shown to exist in parallel for the same surface string, irrespective of the categorial status adopted in fine for the conjunctions in the adverbial clause.

Section 5 examines the structure where the adverbial clause appears below the matrix subject: ‘Subject [[adv.cl ....] [vP ....]]’. Not all adverbial clause types are allowed in this position; while conditional and causal clauses as well as temporal adjuncts are acceptable here, this position is excluded for concessive and inferential clauses. In fact, looking beyond this article and incorporating results from Wei & Li (this volume, Part 1, sections 3.2 and 3.3), the acceptability below the matrix subject is one of the main criteria for identifying central adverbial clauses, as opposed to peripheral adverbial clauses (in the sense of Haegeman 2002). For matrix TP-internal adverbial clauses, we observe a further subdivision concerning their (un)acceptability in the position below auxiliaries. Causal and conditional clauses are allowed below auxiliaries, whereas the situation is more complex for the distribution of temporal adjuncts, which will turn out to depend on the categorial status (clause, DP, PP or PostP).

Section 6 addresses the categorial identity of the numerous items subsumed under the traditional label conjunction, both in the adverbial and the main clause. More precisely, we need to decide whether so-called conjunctions are heads (prepositions, postpositions, complementizers) or adverbs (cf. Chao 1968:790). Note that up to section 6 we will provisionally use the a-theoretical label conjunction for the items at the beginning of an adverbial clause with a “conjunctional” meaning, unless the precise categorial status of a given conjunction is necessary for the discussion of other issues at hand. Checking the acceptability of object extraction from adverbial clauses for the different parsing possibilities obtained in section 4, the island effects observed throughout lead us to an analysis of the conjunctions occurring in the different types of adverbial clauses as heads, i.e. complementizers and adpositions. By contrast, the conjunctions in the main clause are analyzed as adverbs.

Finally, the conclusion in section 7 discusses the results obtained in this article from the perspective of the overall syntax of Chinese.

Given the length of this article, the table of contents for the entire article is provided below. In addition, a short table of contents is given at the beginning of each new section, listing the issues to be discussed.
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2. Two possible analyses of adverbial clauses: adjunction analysis vs. topic analysis

2.1 Topic analysis

2.2 Analyses of adjunction structures in generative grammar

2.2.1 A uniform analysis across categories and adjunction sites

2.2.2 Particles: Topic heads or sentence-final particles?

2.3 Comparison between topic analysis and adjunction analysis

2.1. Topic analysis

As mentioned in the introduction to this special issue, Haiman (1978) established an explicit parallel between conditionals and topics. Naturally, this parallel is not compatible with the notion that the topic is “what the sentence is about” (cf. Li & Thompson 1976). Haiman (1978) therefore adopts Chafe’s (1976: 50-51) notion of topic as “frame”: “Typically, it would seem, the topic sets a spatial, temporal, or individual framework within which the main predications hold. […] In brief, ‘real’ topics (in topic-prominent languages) are not so much ‘what the sentence is about’ as ‘the frame within which the sentence holds’.” Implementing this conception of topic as frame to conditionals, Haiman (1993: 926) states that “[…]the conditional protasis, like many other subordinate clauses of circumstance, define a framework or set the scene within which the following sentence was either valid or felicitous.”

Unlike Chafe (1976) himself, however, Haiman (1978, 1993) combines this with the idea that a topic is always given and that given information always precedes new information, thus “deriving” Greenberg’s (1963) universal 14 stating that the protasis almost invariably precedes the apodosis. (For a more interesting way of deriving this universal, cf. Whitman 2008.)

As pointed out by von Fintel (1994: chapter 3), Haiman’s scenario, predicting that conditionals are only found in sentence-initial position, is straightforwardly challenged by Givón’s (1982) claim that the position of an if clause depends on its discourse status: a conditional clause in sentence-initial position is a topic and carries background material (i.e. old information), whereas in sentence-final position a conditional clause is foregrounded and carries new information. Accordingly, (3c) is unfelicitous as answer to (3a), because the conditional clause if you give me the money providing the requested new information occupies a position reserved for the background material (repeated from the preceding question):

(3) 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.

Given data of the type illustrated in (3), von Fintel (1994: 82) rejects Haiman’s claim that conditionals are topics (hence always given information under Haiman’s view); instead conditionals can be topical (i.e. conveying given information) or focal (i.e. conveying new information), and it is this difference which determines their sentence-initial or sentence-final position.

While this positional dichotomy might in general hold for English,¹ it certainly cannot be applied to Chinese, where a conditional clause in topic position can provide the answer to a

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¹ The positional dichotomy is much less clear for another example pair by Givon (1982):

(i) a. What will you do if I give you the money?
   b. If you give me the money, I’ll buy this house.
   c. #I’ll buy this house if you give me the money.

As pointed out by von Fintel (1994: 81), the answer in (ic) becomes acceptable when the focus is on the VP (signaled by stress on the object house) and the if-clause is de-accented. By contrast, the answer in (3c) above cannot be improved by similar means, indicating the existence of constraints on the position available for new information.
preceding question, hence convey new information. This very fact also highlights the necessity of distinguishing between new information, on the one hand, and focus, on the other:

(4) a. Nǐ huì [zài shénme tiáojìàn xià] qù měiguó?
   2SG will in what condition under go USA
   ‘Under what conditions will you go the USA?’

   b. Guójīa gěi wǒ jiāngxuéjīn dehuà wǒ huì qù měiguó.
   state give 1SG scholarship if 1SG will go USA
   ‘I will go to the USA, if the state gives me a scholarship.’

Note that a sentence-final position for the conditional clause in (4b) is unfelicitous, in contrast to English (cf. the translation of (4b)). Visibly, in Chinese a conditional clause occupies the topic position independently of whether it conveys new or given information.

In fact, as extensively argued for in Paul (2015, ch. 6), it is in general impossible to associate the topic position in Chinese with a particular informational value, irrespective of whether the topic is a DP or a clause. (Also cf. Roberts 2004, Grewendorf 2015 among others for the semantic openness of the German topic position with respect to new vs given information.) While we do not want to repeat the relevant discussion here, let us simply point out a probable source for the incorrect assumption that a constituent in topic position is necessarily “given”. As soon as the topic is posited, introduced, it must be shared by speaker and hearer, precisely because it serves as frame for the sentence. This is especially clear in the case of conditional clauses: they introduce a new, hypothetical content, which the hearer is invited and expected to accept, in order to establish the link with the consequent.³ It is this quasi-immediate acceptance by the hearer that is then misinterpreted as indicating the “given” nature of the topic.

Leaving this semantic issue aside, it is important to note that Haiman’s (1978) main argument for the equation of conditional clauses with topics is morphosyntactic, i.e. based on the presence of identical “markers” for both topics and conditionals in a variety of languages, where these “markers” in turn are identical with interrogative markers.

As stated by Haiman (1978: 587, footnote 16) himself, Chao (1968) made a similar claim for Chinese.⁴ More precisely, Chao (1968: 81-82) observes that the so-called “pause particles” a, ne, me, and ba (which were subsequently analyzed as realizing the head of Topic Phrase by Gasde & Paul 1996) are also found as sentence-final particles in questions.⁵ The sentences (5) - (8) are all examples from Chao (1968: 81-82) with his translation; by contrast, transliteration, glosses and bracketing are ours. Each pair gives an example where the particle...
follows the topic (the (a)-cases) and an example where the particle occurs in sentence-final position (the (b) cases)

(5) a. 
[TopP [Zhè ge rén ]i [Top' [Top° a],
this CL person TOP
[TP ti yīdīng shi ge hǎo rén]],
certainly be CL good person
‘This man (as for), must be a good man.’

b. 
[CP [TP Tā shì nǎr de rén ]a ]?
3SG be where SUB person SFP’
‘Where is he from?’
[Literally: ‘He is a [from] where person?’]

(6) a. Tā zìjǐ de xiăoháiř ne,
3SG self SUB child TOP
yě bù dà tíng tā de huà.
also NEG much listen 3SG SUB word
‘His own children (if it is a question of), do not listen to him much, either.’

b. Xiăoháiř dōu shàng nǎr qu-le ne?
child all go.up where go-PERF SFP
‘Where have all the children gone to then?’

(7) a. Tā cí zhí de yìsi me, yǐjīng dàxiăo-le.
3SG dismiss job SUB idea TOP already cancel-PERF
‘His idea of resigning (as for), has already been canceled.’

b. Nǐ zhīdào tā yào cí zhí le ma?
2SG know 3SG want dismiss job SFP SFP
‘Do you know that he is going to resign?’

(8) a. Zhăngfu ba, zhāo -bù -zháo shìr;
husband TOP search-NEG-find matter
háizīmen ba, yòu bù kěn niàn shū.
children TOP again NEG want study book
‘The husband (if you consider him), can’t find a job;
the children (if you consider them), won’t study, either.

b. Wǒmen wèn wèn tā de zhăngfu ba.
1PL ask ask 3SG SUB husband SFP
‘Shall we ask her husband?’

Even though Chao (1968: 81) describes the (a) sentences as cases where the “subject” is followed by pause particles, it is evident from his paraphrase given for the different particles (e.g. ‘as for’ for a and me, ‘if you consider’ for ba etc.) that the subject has been topicalized, hence occupies SpecTopP within a framework adopting Rizzi’s (1997) split CP, as illustrated for (5a) above. This is important for a correct comprehension of the parallel Chao (1968: 118) establishes later on between pause particles after conditional clauses and pause particles after
“subjects”, which is accordingly to be understood as a parallel between conditional clauses and topics:

(9) a. Yàoshi xià-qǐ yǔ lái à, nà jiù zǎogāo le
   if fall-start rain come TOP that then bad.luck SFP
   ‘If it should start to rain, that would be a mess.’

b. Yàoshi xià-qǐ yǔ lái ne, nà yě bù yàojīn
   if fall-start rain come TOP that also NEG important
   ‘If it is (a question of) starting to rain, that won’t matter.’

c. Yàoshi xià-qǐ yǔ lái me, ràng wǒ kàn zěnme bán
   if fall-start rain come TOP let 1SG see how do
   ‘If it starts to rain (hesitation), let me see what we shall do.’

d. Yàoshi xiàqǐ yǔ lái ba, zánmen jiù zuò chē ba
   if fall-start rain come TOP 1PL then sit car SFP
   ‘If it is (the alternative of) starting to rain, we will take a car.’

(Examples (9a-d) from Chao (1968: 118; his translations; our transliteration and glosses)

Accordingly, Chinese can be said to be on a par with the languages discussed by Haiman (1978, 1993) where topics and conditionals are morphosyntactically marked in the same way, and where these markers are the same as those used in questions.

As we will see in section 2.2 immediately below, it is precisely this homophony between particles analyzed as Topic heads and sentence-final particles (SFPs) analyzed as complementizers that gives rise to an alternative scenario for complex sentences.

2.2. Analyses of adjunction structures in generative grammar

Leaving the topic head scenario aside for a moment, this section discusses the alternative analysis alluded to above for complex sentences of the form ‘adverbial clause - main clause’. Analyzing the particles co-occurring with adverbial clauses as SFPs, i.e. as C-elements in a head-final CP, an adverbial clause (projecting up to CP in the presence of a SFP) is now seen as adjoined to the main clause TP.

(10) [main clause TP [adv.clause CP TP [C° SFP]] [main clause TP ……]]

Some general discussion of adjunction seems necessary before proceeding to a more detailed analysis.

2.2.1 A uniform analysis across categories and adjunction sites

Since Chomsky (1981), i.e. Lectures on government and binding, it is possible to make a distinction between several types of clauses. A complement clause occupies the same position as an “ordinary”, non-clausal complement. A clause modifying an NP, such as a relative clause, occupies the same position as an adjectival modifier. An adverbial clause, such as a causal, conditional or temporal clause, occupies the same syntactic position as an adverb. A complement clause is the sister of X°. Since modifiers are analyzed as adjuncts, an adverbial clause can be adjoined either to X’ or to the maximal projection XP, as illustrated in (11).

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6 Chao (1968: 113) contrasts the possibility of a pause (indicated by particles) after conditional clauses and topicalized subjects with the impossibility of a pause between a verb and its clausal complement.
The general schema presented in (11) can be applied to different categories, such as NP/DP (cf. (12)) or vP/TP (cf. (13)). From this perspective, a relative clause modifying a nominal projection and an adverbial clause modifying a verbal projection occupy the same type of position, i.e. an adjunct position.

(12) a. Complement clause of a noun  
The \[N'[N° rumor [CP that Bill is going to study abroad]]\] is surprising.

b. Restrictive relative clause: adjunct to N’  
The \[N'[N° rumor][CP that I heard]]\] is surprising.

c. Appositive relative clause: adjunct to NP  
\[NP [NP The rumor], [CP which has nothing to do with me anyway]], is surprising.

(13) a. Complement clause of a verb  
I \[V'[V° heard [CP that Bill is going to study abroad]]\].

b. Adverbial clause as adjunct to V’’  
He intends to \[V'[V° leave home][CP when I arrive]]\].

c. Adverbial clause as adjunct to TP  
\[TP [CP When I arrived at home], [TP my mom was cooking]]\].

This uniform analysis of different types of adjunct clauses (modifying either nominal or verbal projections) can be maintained even under *Bare Phrase Structure* in the Minimalist Program (cf. Chomsky 1993, 1995 and subsequent works), given that an XP can have several specifiers or adjuncts. This general schema can be directly applied to Chinese.

(14) Complement clause of a verb:  
Wǒ \[V'[V° zhīdào] [CP Zhāngsān yào qù Fāguó nián shū]]\].  
1SG know Zhangsan will go France study book  
‘I know that Zhangsan will go to study in France.’

(15) Adverbial clause as adjunct to V’ or v’  
a. Wǒ \[vP [CP yǐnwèi pro shēng bìng le]]\]

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7 We abstract away here from the later introduction of vP.
1SG because produce illness SFP
\[ \text{V} \text{ qù-bù-liǎo xuèxiào} \].
go-Neg-able school
‘I cannot go to school, because I am ill.’

b. Wǒ \[ [CP jiùsuàn dāi zài jiā lǐ] \] 1SG even.if stay at home in
\[ \text{V} \text{ yě [V hàng qù tài jiā]]}. \]
also not want go his home
‘I’d rather stay at home [though in general I don’t like it] than go to his place.’

(16) Adverbial clause as adjunct to TP:
\[ [\text{TP} \text{ Jìshǐ Zhāngsān lái } , \text{TP wǒ yě bù huì jiàn tā}]. \]
even.if Zhangsan come 1SG also not will meet 3SG
‘Even if Zhangsan comes, I will not meet him.’

In earlier versions of Generative Grammar, an adjoined position and a specifier position were clearly different: while adjunction was recursive and allowed for multiple adjoined positions, there was only one specifier position closing off the projection. By contrast, in the Minimalist Program since Bare Phrase Structure, adjunction must be achieved by Merge as well. When XP is merged with YP, Bare Phrase Structure does no longer allow to see whether XP should be analyzed as a specifier or as an adjunct, due to the bottom-to-top fashion of building the structure. This also leads to a labeling problem for the pair \{XP,YP\}. Furthermore, in contrast to X-bar theory, multiple specifiers associated with a single head are possible under Bare Phrase Structure, which at least on the surface resembles multiple adjunction and in this respect certainly does not make it easier to distinguish an adjoined position from a specifier position. We do not intend to elaborate on this complex issue here.

2.2.2. Particles: Topic heads or SFPs?
In the previous section, we started out by analyzing adverbial clauses as sentential topics, which on a par with nominal topics occupy SpecTopP whose head is optionally realized by the so-called “pause particles”, analyzed as topic heads. We also pointed out that Chao (1968) had already put forward the formal parallel between these “pause particles” and SFPs used in different types of questions.

Based on the analysis of SFPs as complementizers in a three-layered head-final split CP: Clow < ForceP < AttP (cf. Paul 2014, Pan 2015a, Pan & Paul 2016, Paul & Pan 2017), an adverbial clause followed by a particle can therefore in principle also be assumed to represent a CP. Importantly, under this “SFP-scenario”, the particle qua C takes the adverbial clause TP to its left as its complement and hence forms a constituent with it. This sharply contrasts with the “topic head scenario” where the particle qua Top° selects the main clause TP (or another TopP) to its right as complement.

Since these two analytic possibilities, due to the homophony of Top° and C, will constitute the backdrop for the remainder of the article, we briefly discuss the pro’s and con’s for each scenario.

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8 Kayne (1994) treats specifiers as adjoined for spell out purposes. Chomsky (2000) has proposed a different kind of merge for adjunctions, i.e. pair merge instead of set merge. Adjunction as unprobed merge and the resulting problem for labeling are new problems arising within the MP (cf. Chametzky 2008, Cecchetto & Donati 2015, Ginsburg 2016 among others).
Within the topic head scenario, it might be difficult to explain why the presence of particles is never obligatory in topic structures. This contrasts with the topic head in languages such as Japanese where its co-occurrence with a topic phrase is always required.\(^9\) The simple fact that particles like \(ne\) or \(ba\) are compatible with topic phrases does not necessarily endow them with the nature of topic heads. Nearly the entire range of SFPs, i.e. \(a\), \(ne\), \(ba\), \(ma\), \(eh\), \(beh\) etc., can follow a topic phrase. Under the Topic analysis, topic head and SFPs qua Cs are viewed as homophones; however, under the adjunct analysis, there are only SFPs which can select different XPs as complements, crucially including non-clausal projections such as topic DPs (cf. (17) below).

\[
\begin{array}{l}
\text{[(TopP[AttP [DP Zhè běn shūi]; [Att° \{ne / a / ba / ma\}]],} \\
\text{this Cl book SFP} \\
\text{[Top’ [Top° \Ø] [TP ti xiè de hái bùcuò]]].} \\
\text{write DE still not.bad} \\
\text{‘As for this book, it is well written.’}
\end{array}
\]

In the SFP scenario represented in (17), the particles \(a\), \(ba\) and \(ma\) in e.g. are analyzed as SFPs occupying the head position of the highest projection in the three-layered splitCP, i.e. AttitudeP. This AttP takes a DP complement; accordingly, it is the AttP that functions as topic, not the DP. The entire sentence itself is a TopicP whose head is not realized.

When a topic phrase is followed by a particle, an additional semantic effect associated with that particle is observed, resulting in a slightly different interpretation of the topic depending on the particle at hand (cf. the translation of (5a) - (8a) above where Chao (1968) spells out the discourse effect of the different topic markers). Under the SFP scenario, this semantic effect can be straightforwardly captured by the fact that the SFPs \(qua\) C select the preceding phrase as complement; as a result, SFPs do not “mark” an XP as topic, but provide this XP with additional semantics. Note, though, that the semantic effect induced by the presence of a particle can in principle also be accounted for within the topic head scenario; the particle \(qua\) Top° is likewise endowed with the feature(s) giving rise to the particular semantics observed for each individual particle, thus contributing to the interpretation of the XP in its specifier (i.e. SpecTopP.).

As observed by Wei & Li (this volume), Part 1, section 3.2.3), there is a tonal difference between the topic head \(ne\) and the SFP \(ne\). However, this contrast might also result from prosodic rules holding for a Chinese sentence in general, the more so as SFPs do not possess intrinsic tones.

Finally, for a sub-group of speakers, these particles are compatible with an \textit{ex-situ} focus clefted XP as in (18) (cf. Pan 2017a);

\[
\begin{array}{l}
\text{[(FocP [AttP [TP Shi Zhāngsān de tàidù] \{ne/ba/beh/la\}],} \\
\text{be Zhangsan SUB attitude SFP} \\
\text{[Foc’ [Foc° \Ø] [TP láobān hēn bū xīhuān]].} \\
\text{boss very Neg like} \\
\text{‘It is Zhangsan’s attitude that the boss does not like.’}
\end{array}
\]

These cases cannot be analyzed within the topic head scenario, given that a topic head cannot select a focused XP as its complement. By contrast, within the SFP scenario, the particles realize the head of AttP and take the TP \textit{shi} \textit{Zhangsan de taidu} ‘be Zhangsan’s attitude’ as complement. The AttP as a whole is located in the specifier position of FocP.

\(^9\) Note, though, that the topic head \textit{wu} is optional in spoken Japanese.
2.3. Comparison between Topic analysis and Adjunct analysis

An analysis of the particle (here *ne*) as head-final C (cf. (19a)) or as head of TopP (cf. (19b)) has far-reaching consequences for the overall structure of the complex sentence as a whole, as shown in the comparison between (19a) and (19b) below:

(19) a. [TP\[main cl. [AttP. [TP Rúguò tā bù lái ] [Att° ne]]
[TP\[main cl. wǒ jiù zǐjī qù ]]]
   if 3SG NEG come SFP
   1SG then self go
   ‘If he doesn’t come, then I’ll go on my own.’

b. [TopP [cond.cl. Rúguò tā bù lái ]
   if 3SG NEG come
   [Top° [Top° ne] [TP\[main cl. wǒ jiù zǐjī qù ]]]
   TOP 1SG then self go
   ‘If he doesn’t come, then I’ll go on my own.’

In the “topic head scenario” (19b), *ne* and the conditional clause do not form a constituent, given that *ne* as Topic° selects the main clause TP as complement. By contrast, in the “SFP scenario” (19a), the adverbial clause does form a constituent with SFP. More precisely, the conditional clause is analyzed as an AttP and occupies the adjunct position of the matrix TP.

The rationale, i.e. underlying motivation for the SFP scenario is to maintain the traditional conception of the topic as “what the sentence is about” and as exclusively conveying given information (cf. Li & Thompson 1976); this conception excludes topic status for XPs which do no imply a restrictive nominal set, such as clauses and manner adverbs. A natural implication of this analysis is that not all of the elements on the left of the subject are to be analyzed as topics. For instance, the same NP *míngtiān* ‘tomorrow’ is analyzed as an aboutness topic in (20a), but as a temporal adverb modifying the entire event ‘I will go to school’ in (20b) and hence adjoined to TP:

(20) a. [TopP Míngtiān, [TP tīanqì búcuò]].
   tomorrow  weather good
   ‘Tomorrow, the weather is not bad.’

b. [TP Míngtiān, [TP wǒ yào qù xuéxiào]].
   tomorrow  1SG will go school
   ‘I will go to school tomorrow.’

If *míngtiān* ‘tomorrow’ in (20a) were an adverb modifying the sentence *tīanqì būcuò* ‘the weather is fine’, we would expect that *míngtiān* ‘tomorrow’ could also occur to the right of the subject, i.e. in the canonical adverb position. However, (21a) shows that this is not the case. By contrast, *míngtiān* ‘tomorrow’ in (20b) can also be present in a post-subject position, as shown in (21b), which confirms the adverbial status of *míngtian* ‘tomorrow’ here.

(21) a. ?[TP Tiānqì míngtiān būcuò]].
   whether tomorrow not bad

---

10 Quantificational phrases except for non-specific indefinites, are thus acceptable as topics.
(‘The weather is not bad tomorrow.’)

b. [TP Wǒ mingtiān yào qù xuéxiào].
   1SG tomorrow will go school
   ‘I will go to school tomorrow.’

(21a) is unacceptable under the parsing shown here with mingtiān ‘tomorrow’ as adverb
ajoined to the verbal projection and with niǎngjí as subject. However, when it is mingtiān that
is understood as the subject of the predicate bùcuò ‘not bad’ and when accordingly tianqì
‘weather’ is construed as topic (separated by a pause), then the sentence becomes acceptable.

There is, however, one potential problem for this SFP analysis. As pointed out by Pan (2015a),
Attitude-related particles, conveying strong subjective opinion and judgement of the speaker,
are confined to root contexts and therefore cannot appear in embedded clauses, i.e. in a
domain where speaker/hearer-related dimensions such as subjectivity cannot be encoded:11

(22) [Zhāngsān zhī qù-guò Fǎguó]
   Zhangsan only go-Exp France
   {*[a/ *ba3/ *ne]} de shuōfā bù kěxin.
   Attitude SUB claim NEG reliable
   ‘The claim that Zhangsan only went to France is not reliable.’

(Pan 2015a: 856, (69b))

The contrast between (19a) and (22) suggests that the ban on SFPs realizing AttitudeP in non-
root clauses only holds for properly embedded clauses, such as relative clauses, noun
complement clauses and sentential subjects. The dichotomy root vs non-root does not seem to
be applicable to adverbial clauses preceding the main clause, irrespective of whether this
clause is analyzed as adjoined to the matrix clause or analyzed as a sentential topic. In both
configurations, while the adverbal clause certainly cannot count as root clause, at the same
time its high position with respect to the main clause makes its characterization as non-root
implausible. The topic position as well as adjunction to the matrix clause seem to be of a third
kind in addition to the root vs non-root asymmetry.

To summarize, for adverbial clauses in sentence-initial position, both the SFP analysis
and the topic head analysis have their respective (dis)advantages. The data themselves do not
always permit us to prefer one analysis over the other. In addition, the choice between the two
analyses also depends on the conception of topic one wants to adhere to. As a consequence, in
the remainder of the article, both options will be maintained as analytical possibilities.

3. Adverbial clauses preceding the main clause in their default order

This section presents the central part of the article. It examines in detail all the adverbial
clauses whose default order is the sentence-initial position: conditionals (§3.1), causal clauses
(§3.2), inferential clauses (§3.3), concessive clauses (§3.4) and temporal adjuncts (§3.5).

The term “default order” is important here because as is well-known, these five types of
adverbials can also follow the main clause. However, a close examination of the associated

11 Unlike Attitude and Force heads, low Cs such as le and láizhe are acceptable in embedded contexts:

(i) [DP [C lowP [TP Gāngcái dà diànhuà láizhe]]
   just strike phone LOWC
   de rén ] dàodì shì shéi?
   SUB person in.fact be who
   ‘Who on earth is the person that called just now?’
semantic differences and syntactic contraints holding in the sentence-final position shows that
this is not simply a “reversed” order, and that no derivational relationship exists between the
two orders.
Adverbial clauses whose default order is the sentence-final position, i.e. purposive clauses
headed by yìbiàn ‘so that’) and resultative clauses (headed by yīzhī ‘so that’) as well as
purposive clauses headed by wèile ‘so that, for...to’, are not included here; they are
extensively discussed in the study by Wei & Li (this volume, Parti 1, section 2.1.2; Part 3).
For the adverbial clauses examined in section 3.1 through section 3.5, it is rather evident
how to implement the two available analyses, i.e. the topic head scenario and the SFP
scenario and we will not spell them out explicitly. By contrast, when presenting the more
complicated cases with more than one adverbial clause in section 3.7, we will illustrate in
detail both scenarios.

3.1 Conditions
3.1.1. Different types of conditionals
3.1.1.1. Hypotheticals (counterfactuals and necessary conditions)
3.1.1.2. Relevance conditionals
3.1.1.3. Factual conditionals
3.1.2. Conditionals in sentence-final position
3.1.3. Bare conditionals
3.1.4. The analysis of conditionals in English

As in other languages, in Chinese as well conditionals can be subdivided into hypothetical,
relevance and factual conditionals (cf. Bhatt & Pancheva 2006 for detailed discussion). The
default position for all types of conditional clauses is the sentence-initial position, i.e.
preceding the consequent (main) clause. When occurring in sentence-final position, the
conditional clause has the effect of adding an explanation. After briefly evoking the existence
of bare conditionals, we compare the result of our study of conditionals in Chinese with
standard analyses proposed for conditionals in English.

3.1.1. Different types of conditionals
3.1.1.1. Hypotheticals (counterfactuals and necessary conditions)
Given that we have already seen examples of “ordinary” hypotheticals, below we provide
examples with counterfactuals in order to illustrate hypotheticals, the more so as back in the
eighties their very existence in Chinese was subject of a controversy, initiated by Bloom
(1981). (For the background of this incorrect assumption, cf. Yong Qian 2016; also cf. Qiu
Haiying 2000).12 This is no longer the case today, as evidenced by recent studies, where the
existence of counterfactuals in Chinese is taken for granted (cf. among others Lin Jo-wang
(2016) and references therein).

(23) Rúguó dàifu qiān-le zì,
    if doctor sign-PERF character
    Lìsì kěndìng jiù yǐjīng chū yuàn le
    Lìsì certainly then already go.out hospital SFP
    ‘If the doctor had signed, Lisi would certainly already have left the hospital.’
    (Slightly modified example from Lu Peng (2003: 278, (48))

12 The doubts among general linguists concerning the existence of counterfactuals in Chinese contrasts with the
fact that specialists of Chinese grammar such as Chao (1968: 116) and Lü Shuxiang 1942[1982] cite many
counterfactuals among their examples of conditional clauses.\}
(24) Jíshǐ dài fú méi qiān zì,
    even.if doctor NEG sign character
Lì sī zuò tiān yě shì huì yuàn de
    Lisi yesterday also be will go.out hospital
‘Even if the doctor had not signed, Lisi would still have left the hospital yesterday.’
(Slightly modified example from Lu Peng (2003: 276, (45))

(25) Wǒ yào bù shì děng nǐ, jiù gǎn shāng tóu bān chē le. 14
    1SG if NEG be wait 2SG then catch first CL train SFP
‘If I hadn’t waited for you, I would have caught the first train.’
(Qiu Haiying 2000: 102, 15a)

(26) Rú guò tā men bù shì mǎi le zhè běn shū,
    if 3PL NEG be buy-PERF this CL book
wǒ jiù huì sòng-gěi tā men yī běn (le)
    1 SG then will give -GEI 3PL one CL SFP
‘If they hadn’t bought that book, I would have given them a copy (as present).’

13 Importantly, for a large majority of speakers, sentence (24) without shì and de is unacceptable:

   (ia) *Jíshǐ dài fú méi qiān zì,
        even.if doctor NEG sign character
Lì sī zuò tiān yě chū yuàn
    Lisi yesterday also go.out hospital
If no counterfactual meaning is intended, jíshǐ ‘even if’ or jīnguǎn ‘even though’ are used and the SFP le is required (on its own or in combination with the perfective aspect suffix -le) (cf. Lu Peng 2003: 276-277):

   (ib) Jí shǐ / jīng uăn dài fú méi qiān zì
        even.if/ even.though doctor NEG sign character
Lì sī zuò tiān yǎ hǎi shǐ chū (-le) yuàn le
    Lisi yesterday still go.out-PERF hospital SFP
‘Even though the doctor did not sign, Lisi nevertheless left the hospital yesterday.’

In fact, the construction in (24) involves the so-called propositional assertion (kèndīng yǔqì) with shī…de, as discussed in Paul & Whitman (2008: 422-423). This constructions is used to assert the speaker’s certainty that a proposition is true and relevant to the current discourse:

   (ii) Tā shì yǐdīng huì duì nǐ hǎo yī-bēizi de.
        3 SG be certainly will towards 2 SG good 1-generation DE
‘(It is the case that) he will certainly be good to you for an entire lifetime.’

   (iii) Wǒ běn lái shì yào míng tiān huí zhōng guó de
        1 SG originally be want tomorrow return China DE
kěshì háng kōng gōngsī bā gōng le.
        but airline.company cease work
‘Originally I had wanted to go back to China tomorrow, but the airline is on strike.’

De in (i) - (iii) above is analyzed as a non-root C heading the clausal complement of shí; accordingly, the propositional assertion pattern is syntactically and semantically different from the focus cleft with shī...de, as argued for in great detail by Paul& Whitman (2008).

For a study of counterfactuals involving the auxiliary yīnggāi ‘should’ and de, cf. Lin Jo-wang (2016) who endows de itself with the component of truth confirmation (kèndīng quèrèn yǔqì).

14 The question arises of how to analyze the sequence yào bù shì in (25), i.e. as the conjunction ‘if’ plus the negated copula or rather as a unit. Given that unlike rúguò, yào ‘if’ is confined to the position following the subject, there is no structure with yào parallel to the one in (26), where rúguó ‘if’ and bù shì are separated by the subject. Note that yào shì ‘if’ is in general analyzed as a unit (cf. Lü Shuxiang 2000), not as yào + the copula shì; example (i) with the existential verb yǒu ‘exist, have’ seem to corroborate this view:

   (i) Yàoshì yǒu rén wèn de huà, shūō wǒ zài Lǎo Mǎ jiā
        if exist person ask [-root]C say 1SG at Lao Ma home
‘If someone asks [for me], say that I am at Lao Ma’s.’

This brief discussion illustrates the rather basic, but non-trivial issues arising for the analysis of “conjunctions”, addressed in detail in section 6 below.
Besides counterfactuals, another noteworthy type are hypothetics encoding a necessary condition, contrasting with the *if*-clauses provided so far indicating a sufficient condition. Lü Shuxiang (2000: 681) has the following minimal pair:

(27) **Zhiyào** dā liáng zhēn qīngmélì,  
as long as make 2 needle penicillin  
nǐ zhè bìng jiù néng hǎo  
2SG this illness then can cure  
‘As long as you get two injections of penicillin, then this illness of yours can be cured.’

(28) **Zhiyǒu** dā liáng zhēn qīngmélì,  
only if make 2 needle penicillin  
nǐ zhè bìng cái néng hǎo  
2SG this illness only then can cure  
‘Only if you get two injections of penicillin, then this illness of yours can be cured.’

As noted by Lü Shuxiang (2000: 681), (27) does not exclude other methods to work (cf. Eifring’s (1993: 356) describing *zhiyào* ‘as long as’ as indicating a “pseudo-necessity”. *Zhiyǒu* ‘only if’ in (28), however, encodes a necessary condition; accordingly, (28) states penicillin as the only medicine that will cure the illness. The difference in the type of condition encoded by *zhiyào* ‘as long as’ vs *zhiyǒu* ‘only if’ correlates with the use of the correlative adverb *jiù* ‘then’ vs *cái* ‘only then’ in the main clause. (For further discussion of these adverbs, cf. Paris 1985, Biq 1984, Ernst 2002, Hole 2004, among others). Note, though, that other adverbs besides *cái* are acceptable with necessary conditionals as well:

(29) **Zhiyǒu** nǐ qù qǐng, yěxǔ tā hái néng lái.  
only if 2SG go invite perhaps 3SG still can come  
‘Only if you go and ask him, he perhaps can still come.’   
(Lü Shuxiang 2000: 681)

A necessary condition can also be expressed by *chúfēi* ‘only if’, with *cái* ‘only then’ or *fǒuzé* ‘otherwise’ in the main clause:

(30) **Chúfēi** nǐ qù, tā cái hui qù.  
only if 2SG go 3SG only then will go  
‘He will only go, if you go.’

(31) **Chúfēi** xià yǔ, fǒuzé tā shàng bān  
only if fall rain otherwise 3SG go work  
cóngglái bù zuò chē.  
ever NEG sit bus  
‘Unless it rains, he never takes the bus to go to work.’   
(Lü Shuxiang 2000: 125)

3.1.1.2. Relevance conditionals

In relevance conditionals (also called *conditional speech acts*) illustrated by *If you’re thirsty, there is beer in the fridge*, the antecedent clause clearly does not provide the circumstances under which the consequent clause is true; on the contrary, the truth value of the latter is
independent of the situation indicated in the antecedent clause. This type of conditional likewise exists in Chinese:

(32) \{Yàoshi/(?)Rúguò\} ní kě -le déhuà, if / if 2SG be.thirsty-PERF C(-root)
bīngxiāng lǐ yǒu guǒzhī. fridge in exist fruit.juice
‘If you are thirsty, there is juice in the fridge.’

Note that in relevance conditionals, yàoshi ‘if’ is slightly preferred to rúguò ‘if’ used in standard hypotheticals.

Chinese relevance conditionals are on a par with those in e.g. English as far as constraints on correlative adverbs in the main clause are concerned. Thus, name ‘in that case, therefore, so’ is banned here:

(33) Yàoshi ní kě -le déhuà, if 2SG be.thirsty-PERF C(-root)
(*nàme) bīngxiāng lǐ yǒu guǒzhī. in.that.case fridge in exist fruit.juice
‘If you are thirsty, (*in that case) there is juice in the fridge.’

The case is a bit more complex for jiù ‘then’; while in contrast to English then, jiù ‘then’ is acceptable in the main clause preceded by a relevance conditional, its function here is to emphasize the existence of the juice in the fridge (hence our rather free translation of jiù as ‘naturally’), rather than to highlight the logical link between the antecedent and the consequent clause as in standard rúguò/yàoshi…jiù ‘if…then’ conditionals:

(34) Yàoshi ní kě -le déhuà, if 2SG be.thirsty-PERF C(-root)
bīngxiāng lǐ jiù yǒu guǒzhī. fridge in then exist fruit.juice
‘If you are thirsty, there is juice in the fridge, naturally.’

(For a recent study of relevance conditionals in English and German, cf. Ebert et al. 2014).

3.1.1.3. Factual conditionals
Factual conditionals (Iatridou 1991), also known as premise conditionals (Haegeman 2003), such as If Fred is so smart, why didn’t he get the job? likewise exist in Chinese:

(35) Rúguò Zhāngsān zhēn de nàme nénggàn déhuà, if 3SG Zhangsan really so capable C(-root)
nà /*nàme tā wèishénme hái then/in.that.case 3SG why still
zhāo -bù -dào gōngzuò ne? search-NEG-arrive work SFP
‘If Zhangsan is really so capable, why doesn’t he find a job then?’

Again, we observe constraints for correlative adverbs in the main clause. Name ‘in that case’ is banned here, as already observed for relevance conditionals (cf. (33) above); by contrast, nà ‘that, then’, is acceptable, on a par with sentence-final then in English. Note that then in the
sentence-initial position of the main clause is reserved for standard conditionals in English (cf. Ebert et al. 2014 and references therein).

3.1.2. Conditionals in sentence-final position

While the default position for conditionals is preceding the main clause, it is well-known that they can also occur in sentence-final position, analyzed by Chao (1968: 132-13, section 2.14.3) as “afterthought” (also cf. Wei & Li, this volume, Part 2, section 6):

(36) Tā běnlái shì kěyǐ bēi jiùhuó de, rúguǒ jíshí sòng-dào yīyuàn dehuà. ‘She could in fact have been saved, if she had been brought to the hospital in time.’

(37) Tā shì bù huì zhǔdòng lái de, chūfēi nǐ qù qǐng tā. ‘He will definitely not come on his own, unless you go and invite him.’

According to Xing Fuyi (2001: 88), the sentence-final position of the conditional has the effect of completing the first sentence, of adding an explanation. It explicitly draws the attention of the hearer to the condition under which the main clause holds. This can be further illustrated in the following sentence where a cautioning warning is inserted before the conditional:

(38) Wǒmen míngtiān kěyǐ qù yěcān, bùguò bié gāoxìng de tài zǎo, qiántí shì, rúguǒ tiānqì hǎo dehuà. ‘We can go picknicking tomorrow, but don’t be happy too soon, only if the weather is good.’

Conditional clauses in sentence-final position must, however, be distinguished from those in sentence-initial position. For example, correlative adverbs such as cái as well as conjunctions in the pre-subject position of the main clause (e.g. nàme ‘in that case’, fǒuzé ‘otherwise’) are unacceptable in the main clause when the latter is not preceded, but followed by the conditional:

(39) Tā (*cái ) hui qù, chūfēi nǐ qù. (cf. (30) above)

15 Adverbial clauses in sentence-final position seem to be different from non-clausal “afterthoughts” examined by Cheung (2009) which are said to be systematically de-stressed. By contrast, as observed by Xing Fuyi (2001), a sentence-final conditional clause might very well be assigned phonological prominence in order to attract the hearer’s attention. The difference between the stress pattern holding within a simple sentence (including the “afterthought”) and the stress pattern spanning over two interrelated clauses still needs to be explored.
While *cāi* ‘only then’, *fǒuzé* ‘otherwise’ and *nàme* ‘in that case’ are excluded in (39) - (41), because they require a preceding clause in order to establish the logical link, *nà* ‘then’ can express a simple consecutive relationship and is therefore acceptable in (41).

These observations concerning conditionals in sentence-final position show that the sentence-initial position is the default position, insofar as the constraints observed all hold for the adverbial clause in sentence-final position. In this respect we follow traditional Chinese grammar, which considers the sentence-initial position as default position and formulates the constraints in terms of “deviations” from the properties holding in this sentence-initial position. As we will see in the remainder of this article, this asymmetry between sentence-initial and sentence-final adverbial clauses, which excludes a derivational relationship between the two types, likewise holds for causal, inferential, concessive and temporal clauses.

3.1.2. Bare conditionals

So far we have examined conditional clauses introduced by ‘if’ conjunctions. However, as is well-known, conditionals in Chinese can also be “bare”:

(42) a. Tā qù, wǒ jiù bù qù.
   3SG go 1SG then NEG go
   ‘If he goes, then I won’t go.’

   b. Tā bù qù, wǒ jiù qù.
   3SG NEG go 1SG then go
   ‘If he doesn’t go, then I’ll go.’

(43) Dìtiě bā gōng, wǒ jiù liú -zài jiā le
    subway stop work 1SG then remain-be.at home SFP
    ‘If the subway is on strike, I’ll stay at home.’

In fact, in the absence of any context, the interpretation of a bare complex sentence ‘adverbial clause - main clause’ as implying a conditional relation is the default case and does not require any explicit conditional conjunction.

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16 Besides the ‘if’-conjunctions *yào, yàoshi, rígù* illustrated in the examples above, *jiārú, jiāshí, and tǎngruò*, all meaning ‘if’ are likewise used in the spoken language (cf. Eifring 1993: 355, Liu Yuehua et al. 2001: 313-314 for extensive lists, also including the numerous ‘if’ conjunctions of the written register).

17 As the attentive reader may have noticed, the sentences (42) - (43) are not completely bare, because featuring the adverb *jiù* ‘then’ in the main clause. Note that the presence of correlative adverbs (*jiù* ‘then, *cāi* ‘only then’ etc.) is obligatory, also in the presence of ‘if’ conjunctions.
Finally, in so-called donkey sentences (cf. Cheng & Huang 1996; Pan & Jiang 2015),
conditional conjunctions (rúguǒ ‘if’, yàoshi ‘if’ etc.) are excluded:

(44) (*rúguǒ/*yàoshi) Nǐ chī shénme, wǒ jiù chī shénme.
‘I’ll eat whatever you eat.’

(45) Shéi xiān lái, shéi xiān chī.
‘Who arrives first, eats first.’

Importantly, the adverb jiù ‘then’ is only optional in the case of a subject indefinite wh as in (45) (cf. Pan 2011 for further discussion).

3.1.3. The analysis of conditionals in English
As outlined above, a conditional clause in Chinese can be either merged in sentence-initial or sentence-final position, and neither position is to be derived by movement.

This is different from the analysis proposed for English (cf. Bhatt & Pancheva (2006: 670). While a sentence-final conditional clause is merged in situ (i.e. adjoined to VP, cf. (46)), there are different scenarios for sentence-initial conditional clauses, depending on the presence or absence of then.18 When no then is present in the main clause, the conditional clause can either be merged directly in sentence-initial position (cf. (47a)) or be fronted there from the sentence-final VP adjoined position (cf. (47b)). If, however, then is present, it is then that is fronted within the main clause, and the conditional clause in turn adjoins to the resulting adjunction structure, thus preceding then (cf. (48)):

(46) Bill will leave [VP [VP leave] [CP if Mary comes]]

(47) a. [IP [CP If Mary comes] [IP Bill will leave]]

b. [IP [CP If Mary comes]; [IP Bill will [VP [VP leave] t₁]]]

(48) [IP [CP If Mary comes] [IP theni [IP Bill will [VP [VP leave] t₁]]]

In sum, it is only in the absence of then that a sentence-initial conditional clause might be derived by movement from a lower position (cf. (47b)).

Note, though, as observed by Bhatt & Pancheva (2006: 671, (94), (95)) themselves, that reconstruction effects are the same for conditional clauses with or without then in the main clause. This is unexpected, given that one involves movement and the other not and that reconstruction effects are predicted for the complex sentence involving movement.

(49) *If John₁ is sick, he thought that Bill would visit.
(50) *If John₁ is sick, then he thought that Bill would visit.

18 As pointed out by Ebert et al. (2014: 354), the crucial role played by then here is linked to the widespread assumption (cf. Fintel 1994; Iatridou 1994 among others) that then as a kind of proform picks up the (world type) referent of the if-clause when the latter is left-dislocated.
As far as we can see, this rather argues against a movement analysis for sentence-initial conditional clauses in English as well. Be that as it may, the derivation proposed for English conditional clauses cannot be applied to Chinese.\(^1\)

First, the equivalent of (49) in Chinese seems to show that the subject in a sentence-initial conditional clause can be coindexed with the subject pronoun in the main clause

\[\text{(49')} \quad \text{Rúguò Lìsì shēng bìng dehuà, tā rènwéi} \]
\[\text{if Lìsì be sick [-root]C he think} \]
\[\text{Zhāngsān kēndìng huì lái tānbìng.} \]
\[\text{Zhāngsān will come visit} \]
\[\text{‘If Lìsì is sick, he thinks that Zhāngsān will certainly come visit.’} \]

Note that the acceptability judgements for this type of sentence are not the same among native speakers. By contrast, the acceptability of the sentence below with the coindexation of both subjects does \textit{not} seem to be subject to variation among native speakers (also cf. Li & Wei, this volume, Part 1, section 3.4.2):

\[\text{(51) Rúguò Zhāngsān, hěn yóuqian,} \]
\[\text{if Zhāngsān very rich} \]
\[\text{3SG definitely will help poor.people DE} \]
\[\text{‘If Zhāngsān were rich, he would definitely help the poor.’} \]

If we now look at the English translation of (51), we see that in English as well, \textit{Zhāngsān} can be coindexed with \textit{he} in the main clause, as likewise pointed out by an anonymous reviewer. This further challenges Bhatt & Pantcheva’s analysis for conditional clauses in English.\(^2\)

Second, a derivation involving adverb fronting as in English does not tie in with the overall syntax of adverbs such as \textit{jìù} ‘then’, \textit{nàme} etc. in Chinese. More precisely, adverbs in general are banned from the sentence-final position, so there is no position they could have been fronted from. In addition, while adverbs of the type \textit{nà} ‘so’ and \textit{nàme} ‘in that case’ always precede the subject, the so-called “correlative” adverbs illustrated by \textit{jìù} ‘then’, \textit{cái} ‘only then’ etc. are confined to the preverbal position to the right of the subject. This restrained distribution points to their systematic, principled “unmovability” and contrasts with English \textit{then}, on the one hand, and with the class of sentence-level adverbs in Chinese (e.g. \textit{yěxìù} ‘perhaps’, \textit{xínrán} ‘obviously’ etc.), which are acceptable in both pre- and post-subject position (preverbally), on the other (cf. Paul 2017 for further discussion).

Finally, Bhatt & Pantcheva (2006: 640, (4a-d)) point out that (some of) the properties shown for conditional clauses likewise hold for other adverbial clauses in English: they can either precede or follow the main clause and show a correlative adverb in the main clause, even though this is not always the case:

\[\text{(52) a. If Andrea arrived late, then Clara must have gotten upset.} \]
\[\text{b. When Andrea arrived late, (*? then) Clara got upset (?then).} \]
\[\text{c. Because Andrea arrived late, (*for that reason) Clara got upset (*for that reason).} \]
\[\text{d. Although Andrea arrived on time,} \]

\(^{1}\) For Chinese, we likewise do not endorse Bhatt & Pantcheva’s (2006: 639) claim that conditionals are “essentially free relatives of possible worlds”.

\(^{2}\) As mentioned by Bhatt & Pantcheva (2006: 671; 684: footnote 29), the Condition C-effects are unexpected in (50). They comment this as follows: “These effects are a problem only if we assume that reconstruction effects imply movement. As much work on connectivity has argued, such an assumption is far from obvious.”
(still/nevertheless) Clara (still/nevertheless) got upset.

*When*-clauses only allow *then* very marginally. While complex sentences with concessives admit *still* or *nevertheless* in the main clause, no correlative adverb is acceptable in the main clause in combination with a *because*-clause. Again, the situation in Chinese is more complex, as we will see in the remainder of this article.

### 3.2 Causal clauses

#### 3.2.1. Causal clauses in sentence-initial position

#### 3.2.2. Causal clauses in sentence-final position

#### 3.2.3. Complementizer *yīnwei* vs preposition *yīnwei*

#### 3.2.1. Causal clauses in sentence-initial position

Like conditional clauses, causal clauses occur in sentence-initial position. There is only one causal conjunction used in the spoken language, i.e. *yīnwei* ‘because’. The other causal conjunction, *yóuyú* ‘because’, is more typical of the written register and therefore not included here (cf. Liu et al. 2001: 335-336 for further discussion). Correlative adverbs in the main clause include *suǒyǐ* ‘so, therefore’ (exclusively in pre-subject position), *jiù* ‘then’, and *cái* ‘(only) then’ (the latter two exclusively in the canonical preverbal adverb position to the right of the subject):

(53) *Yīnwei* dìtiē jǐntiān bā gōng,  
because subway today stop work  
suǒyǐ tā zōu lù qù shāng bān  
so 3SG walk road go attend work.  
‘Because the subway is on strike, he therefore walks to work.’

(54) *Yīnwei* wǒ ěrzi bìng -le,  
because 1SG son be.ill-PERF  
(suǒyǐ) wǒ jiù dài tā qù-le yīyuàn  
so 1SG then bring 3SG go-PERF hospital  
‘Because my son has fallen ill, I went with him to the hospital.’

(55) *Yīnwei* tā cónglái méi chī-guò,  
because 3SG ever NEG eat-EXP  
cái juéde hěn hāochī  
only.then feel very delicious  
‘Because he had never tasted it before, he found it delicious.’

As illustrated in (56) - (58) below, when either *yīnwei* ‘because’ or the correlative adverbs in the main clause (*suǒyǐ* ‘so, therefore’, *jiù* ‘then’, *cái* ‘(only) then’) are absent, the causal relationship still obtains:

(56) Wǒ méi yǒu shíjiān zhǔ fàn,  
1SG NEG have time cook food  
jiù qū cānfiĕng suībiăn chī-le yīdiān.  
then go restaurant to.one’s.liking eat-PERF a.bit  
‘Because I didn’t have time, I went to the restaurant to eat a little something.’
(57) Wǒ hé tā zàiyǐqǐ gōngzuò-guò, (Liu et al. 2001: 337)
1SG with 3SG together work -EXP
suǒyǐ wǒ duì tā bǐjiào shūxī.
so 1SG towards 3SG relatively familiar
‘I have collaborated with her, so I’m rather familiar with her.’

(58) Yīnwèi nǐ bù shì zhōngguórén (Liu et al. 2001:333)
because 2SG NEG be Chinese
zhōngguórén jiào nǐ lào-wài
Chinese call 2SG old-foreigner.
‘Because you are not Chinese, the Chinese call you “old [i.e. respected] foreigner”.’

3.2.2. Causal clauses in sentence-final position
As illustrated in (59) - (61) below, a causal clause can also follow the main clause:

(59) Tā méi yǒu lái shàng kè, (Liu et al. 2001: 334)
3SG NEG have come attend class
yīnwèi tā bìng-le
because 3SG be.ill-PERF
‘He hasn’t come to school, because he’s fallen ill.’

(60) Zhèlǐ wú fǎ guò jiāng, yīnwèi shūiliú tài jí.
here NEG way cross river because current too fast
‘There’s no way to cross the river here, because the current is too strong.’
(Lü Shuxiang 2000: 623)

(61) Zuótiān wò méi qù zhǎo nǐ,
yesterday 1SG NEG go search 2SG
yīnwèi yǒu bié de shì.
because have other SUB matter
‘I didn’t come to see you yesterday, because I had something else to do.’

Again, correlative adverbs are barred from the main clause in this case, as already observed for sentences with a conditional clause in sentence-final position:21

(62) (*Suǒyǐ) tā (*jiù) méi yǒu lái shàng kè,
therefore 3SG then NEG have come attend class
yīnwèi tā bìng-le.
because 3SG be.ill-PERF
‘He hasn’t come to school, because he’s fallen ill.’

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21 There are instances where suǒyǐ ‘so’ may appear in a sentence-initial clause. However, as the obligatory presence of the copula shì ‘be’ preceding the yīnwèi clause in this case shows, this is a construction different from the ‘adverbial clause - main clause’ construction illustrated in (57) above, a fact which we have tried to capture in the translation of (i). Also note the post-subject position of suǒyǐ in (i), which is excluded for suǒyǐ in the standard pattern ‘adverbial clause - main clause’, where suǒyǐ must precede the subject:

(i) Wǒ suǒyǐ dui tā bǐjiào shūxī (Liu et al. 2001: 337)
1SG so 1SG towards 3SG relatively familiar
shì yīnwèi wǒ hé tā zàiyǐqǐ gōngzuò-guò.
because 1SG with 3SG together work -EXP
‘The reason I am rather familiar with her is because I have already worked with her.’
This is on a par with e.g. English where correlative adverbs such as *therefore* are likewise banned from the main clause followed by the causal clause.

(63)  
a. He didn’t come to school, because he is sick  
b. (*Therefore) he didn’t come to school, because he is sick

Whether this ban on adverbs is treated as a semantic rather than a syntactic constraint is orthogonal to the issue that this ban makes it difficult to derive the sentence-initial causal clause from a sentence-final position via movement.

However, the semantic effect associated with the sentence-final position of the conditional clause mentioned in section 3.1.2 above, *viz* drawing the speaker’s attention to the additional, completing information is not observed for the causal clause. Instead, as already observed by Chao (1968: 133, section 2.14.3), a causal clause in sentence-final position is not necessarily an unplanned afterthought. Accordingly, the order ‘main clause - causal clause’ seems to represent one of the two possible orders for a sentence involving a causal relation, *modulo* the fact that different constraints (e.g. with respect to the presence/absence of correlative adverbs) apply in these two positions (cf. Wei & Li, Part 1, section 3.4.1.1).  

Again, no derivational relationship exists between the two orders. The difference just observed between a sentence-final conditional clause and a sentence-final causal clause is confirmed by the following contrast:

(64) Tā jíntiān méi lái, [TP [Ø] shì [yīnwèi tā bìng-le]].  
3SG today NEG come be because 3SG be.ill-PERF  
‘He hasn’t come today, this is because he has fallen ill.’

(65) Wǒmen míntiān kěyǐ qù yěcān,  
1PL tomorrow can go picknick  
(*shì) rúguò tiānqì hǎo dehuā.  
be if weather good C(root)  
‘We can go picknicking tomorrow, (??this is) provided the weather is fine.’

In (64), the *yīnwèi*-clause is the complement of the copula *shì* whose (null) subject refers back to the first clause, hence our translation as ‘this is because…’. As shown in (65), this construction is impossible in the case of a conditional clause in Chinese, for semantic reasons as also observed for English.

### 3.2.3. Complementizer *yīnwèi* vs preposition *yīnwèi*

Finally, the conjunction *yīnwèi* ‘because’ co-exists with the preposition *yīnwèi* ‘because of’. Like all adjunct phrases, the adjunct PP headed by *yīnwèi* is confined to a preverbal position, preceding or following the subject, and banned from postverbal position.

(66) a. [PP Yīnwèi [DP zhè jiān shì ]]  
because.of this CL matter  
(Lū Shuxiang 2000: 622)

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22 As pointed out by Wei & Li (this volume, Part 1, section 3.4.1.1), there are cases where the causal clause must appear in the sentence-final position:

(i)  
Mǎlì bù zài zhēlǐ, yīnwèi wǒ méi kànjàn tā  
Mary NEG be.at here because 1SG NEG see 3SG  
‘Mary is not here, because I haven’t seen her.’

(ii)  
Yīnwèi wǒ méi kànjàn tā, Mǎlì bù zài zhēlǐ  
because 1SG NEG see 3SG Mary NEG be.at here
[TP Xiàotiān hái shòudào-le biàoyáng.
Xiaotian still receive -PERF praise

b. [TP Xiàotiān [PP yīnwèi [DP zhè jiàn shì ]]]
   Xiaotian because.of this CL matter
hái shòudào-le biàoyáng.
still receive -PERF praise
   ‘Because of this matter, Xiaotian again received praise.’

Anticipating somewhat our discussion of the categorial status of the items labelled conjunctions so far (cf. section 6 below), the pair of examples below suggests that it does make a difference whether yīnwèi in (67) is analyzed as a C rather than a P selecting a clause, because otherwise the difference in acceptability of suǒyǐ ‘therefore’ cannot be explained.

(67) [clause Yīnwèi tiānqì lèng] suǒyǐ héshuǐ jié -le bīng.
   because weather cold therefore river consolidate-PERF ice
   ‘Because it is cold, therefore the river has frozen.

(68) [PP Yīnwèi [DP zhè ge yuángù]],
   because.of this CL reason
   (*suǒyǐ) tā zuòtiān méi yǒu lái.
   therefore 3SG yesterday NEG have come
   ‘Because of this reason he (*therefore) didn’t come today.’

While suǒyǐ ‘therefore’ in example (68) from Lin Yuwen (1984: 12) is indeed excluded, in other cases suǒyǐ seems marginally acceptable in combination with a yīnwèi-PP for some speakers, suggesting that Lin’s generalization might be too strong:

(69) Wǒ hén bāoqiàn, [PP yīnwèi [DP wǒ de yuángù]],
   because.of this CL reason
   (?)suǒyǐ) dàjiā dōu bù lái le.
   therefore everybody all NEG come SFP
   ‘I’m sorry that because of me, nobody came.’

Nevertheless, the other observations point to the existence of a distinction between the preposition yīnwèi ‘because of’ and the complementizer yīnwèi ‘because’ (cf. section 6.1 below for further discussion).
3.3. Inferential clauses
The most common inferential conjunction is *jírán* ‘since’: its variant *jì* is more typical of the written language and will therefore not be discussed here.

(70) *Jírán nǐ dōu lái -le, jiù bāng wǒ zuò diàn shì.*
    since 2SG all come-PERF then help 1SG do little thing
    ‘Since you are here, you might as well give me a hand.’

(71) *Jírán nǐ yídìng yào qù, wǒ yě bù fǎnduì.*
    since 2SG certainly want go 1SG also NEG oppose
    ‘Given that you want to go anyway, I will not oppose you.’
    (Lü Shuxiang 2000: 293)

As is well-known, the difference between *since, given that* and *because* lies in the fact that both the speaker and the hearer know about the fact related in the *since* and *given that* clause. This is the reason why *yīnwèi* ‘because’ in (72) is not felicitous: *yīnwèi* ‘because’ is used when the speaker assumes the hearer not to be up-to-date with respect to the reason. This is, however, in contradiction with the fact that the hearer sees the speaker as result of his having been dispatched to the hearer’s place.

(72) *Jírán/*(*yīnwèi*) pài wǒ lái, nà jiù shì xiāngxin wǒ.*
    since because send me come that then be trust me
    ‘Since I was sent here officially, that means that I am trustworthy.’
    (Lü Shuxiang 2000: 293)

If we now change the order and put the inferential clause in the sentence final position, no notable semantic difference ensues.

(73) *Wǒ yě bù fǎnduì, jírán nǐ yídìng yào qù.*
    1SG also NEG against since 2SG certainly want go
    ‘Given that you want to go anyway, I will not oppose you.’

(74) *Nǐ jiù bāng wǒ zuò diàn shì ba,*
    2SG then help me do little thing SFP
    *jírán nǐ dōu lái-le.*
    since 2SG all come-Perf
    ‘You might as well give me a hand, since you are here.’

This may be due to the informational value of inferential clauses as just discussed and the lack of any causal relation between the two clauses. Note that correlative adverbs such as *jiù* ‘then’ are acceptable irrespective of whether the main clause follows or precedes the inferential clause; this is different from the observation made above concerning complex sentences with conditional and causal clauses (cf. sections 3.1.2. and 3.2.2 above).
3.4 Concessive clauses

3.4.1 Concessive clauses with suīrán, jíshǐ, jìbiàn, jiùsuàn
The conjunctions present in concessive clauses are suīrán ‘although’ as well as jíshǐ, jìbiàn, jiùsuàn, the latter three all meaning ‘even if, even though’. Like conditional, causal and inferential clauses, the concessive clause in general precedes the main clause; the latter can be optionally introduced by the conjunctions dàn(shì) ‘but’, kěshì ‘but’ or bùguò ‘but’ and in addition can contain TP-internal adverbs such as háishì ‘still’, yě ‘also’, réngrán ‘still’ etc.

(75) Suīrán tā méi yǒu qián, (kěshì/bùguò)
although 3SG NEG have money but
wǒ {háishì/réngrán} yào gēn tā jié hūn.
1SG still want with 3SG join marriage
‘Although he has no money, I (nevertheless) still want to marry him.’

(76) Suīrán wǒmen bù shì péngyou,
although 1PL NEG be friends
dàn wǒmen yě bù shì dírén.
but 1PL also NEG be enemy
‘Although we are not friends, we are not enemies either.’

When the concessive clause does not occupy the sentence-initial position (cf. (77a), (78a)), but occurs sentence-finally (cf. (77b), (78b)), this has the effect of emphasizing that the first clause holds irrespective of the circumstances expressed in the concessive clause.

(77) a. {Suīrán / jíshǐ} tā méi yǒu qián,
although/ even.if 3SG NEG have money
wǒ {háishì/yě} yào gēn tā jié hūn.
1SG still /also want with 3SG join marriage
‘Although/even if he has no money, I still want to marry him.’

b. Wǒ háishì yào gēn tā jié hūn,
1SG definitely want with 3SG join marriage
{suīrán / jíshǐ} tā méi yǒu qián.
although/ even.if 3SG NEG have money
‘I still want to marry him, although/even if he has no money.’
(Context: A mother repeats her injunction not to marry. The daughter replies with sentence (77b).)

The same holds for a concessive clause introduced by bùguăn or wúlùn ‘no matter what…’

(78) a. {Bùguăn/wúlùn} nǐ shuō shénme,
no.matter 2SG say what
wǒ kěndìng huì qù de.
1SG definitely will go DE
‘Whatever you say, I will go (there).’

b. Wǒ kěndìng huì qù de, bùguăn nǐ shuō shénme.
1SG definitely will go DE no.matter 2SG say what
‘I will definitely go (there), whatever you say.’
Given this semantic difference, the order ‘main clause - concessive clause’ is clearly not a neutral alternative to the default order ‘concessive clause - main clause.

3.4.2. Other alleged concessive conjunctions
In traditional grammar manuals ning-kē, ning-yuàn, ning-kēn are included among the conjunctions with a concessive meaning, on a par with suǐrán ‘although’ etc. However, as illustrated in (79a-b), ning-kē, ning-yuàn, ning-kēn must occur to the right of the subject and are excluded from the pre-subject position, unlike the other cases of conjunctions seen so far. This in itself already sheds doubt on their status of conjunctions.

(79) a. Wǒ {ning-kē/ning-yuàn/ning-kēn} chū jiā,  
    1SG would.rather exit home  
yě bù yào jià gěi tā.  
also NEG want marry to 3SG  
‘I would rather (leave home, i.e.) become a nun than marry him.’

b. *{Ning-kē/ning-yuàn/ning-kēn} wǒ chū jiā, …  
would.rather 1SG exit home  
yě bù yào jià gěi tā.  
also NEG want I marry to him  
‘My father would rather that I become a nun than that I marry him.’

In addition, if one decomposes these so-called conjunctions, we obtain the adverb ning ‘rather, preferably’ followed by a modal auxiliary, i.e. kē ‘can’, yuàn ‘wish’ or kēn ‘be willing to’. Accordingly, these items are to be analyzed as verbs selecting a clausal complement. This is confirmed by (80) where the clausal complement contains an explicit subject different from the matrix subject.

(80) Wǒ bàba {ning-kē/ning-yuàn/ning-kēn} wǒ chū jiā,  
    1SG father would.rather 1SG exit home  
yě bù yào wǒ jià gěi tā.  
also NEG want I marry to him  
‘My father would rather that I become a nun than that I marry him.’

Sentence (81) below with ning-kē/ning-yuàn/ning-kēn ‘would rather’ in sentence initial position is only a counter-example at first sight: the subject of ning-kē is an impersonal pronoun which in Chinese remains covert:

(81) Ning-kē  wǒ chū jiā,  
    would.rather 1SG exit home  
yě bù néng nǐ bù jià gěi rén.  
also NEG can 2SG NEG marry to person  
‘It would be preferable that I become a nun, but it cannot be the case that you do not get married.’

Importantly, ning-kē in (81) cannot be replaced by ning-yuàn or ning-kēn, since both kēn ‘be willing to’ and yuàn ‘wish’ are volitional verbs requiring an agent. This confirms our decomposition above. Note that bù néng is construed as an impersonal predicate as well, taking a clausal complement: ‘it cannot be the case that’. This shows conclusively that ning-kē/ning-yuàn/ning-kēn are not conjunctions, but verbs.
Adverbial clauses introduced by yǔqì ‘instead’ raise another question, this time concerning the sequence bù-rú ‘not-be equal to’ often present in the associated main clause. Xing Fuyi (2001:147) for example analyzes bùrú as conjunction. By contrast, Lü Shuxiang (2000: 102-103) analyses bùrú as verb. More precisely, bùrú selects a clausal complement (whose subject may be different from the first clause).

(82) Yǔqì ràng tā gēn biéde nǚrén jié hūn
      instead let 3SG with other women join marriage
hái bù rú bā tā gēi shā-le.
still NEG be.equal.to BA 3SG GEI kill-PERF
‘Instead of letting him marry another woman, it would still be better to kill him.’

The subject of bù rú ‘not be equal to’ is a null subject referring to the first clause introduced by yǔqì ‘instead’; this yǔqì -clause in turn can be analyzed either as a topic or as an adjunct to the matrix TP (cf. (83a)). An alternative analysis is to consider yǔqì nǐ qù as a sentential subject (cf. (83b)).

(83) a. [[Yǔqì nǐ qù] [TP Ø bù rú wǒ qù]].
      instead 2SG go NEG be.equal.to 1SG go
b. [TP [sent.subj.TP yǔqì nǐ qù] [bù rú wǒ qù]].
      instead 2SG go NEG be.equal.to 1SG go
‘It would be better if I go than that you go.’

Concerning the semantic difference between a sentence with yǔqì ‘instead’… bù rú ‘not be equal to’ and a sentence with ningkě…yě ‘would rather…than’, we observe that in the first case, it is the proposition in the main clause introduced by bù rú that is presented as the desirable option, whereas in the second case, it is the proposition in the adverbial clause (with ningkě) which is presented as preferable:

(84) Yǔqì jiānglái nào lí hūn
      instead future fight separate marriage
bù rú xiānzáì bié jié hūn.
NEG be.equal.to now NEG join marriage
‘Instead of fighting about a divorce in the future, it would be better not to get married now at all.’

(85) Wǒ ning-kě è -sǐ yě bù chī
  1SG would.rather be.hungry-die also NEG eat
dìrén gēi de dōngxì.
enemy give SUB thing
‘I’d rather starve than eat the food provided by the enemy.’

For completeness sake, we would like to add that the order bù rú… yǔqì is acceptable as well. As reflected in the translation, this order seems to be on a par with the order yǔqì … bù rú.

(86) Bù rú nǐ jiào tā qù ba,
    NEG be.equal.to 2SG ask 3sg go SFP
yǔqì nǐ zǐjī pào yì tàng.
    instead 2SG self run 1 round
‘It would be better to ask him to go instead of going yourself.’

It is important to make a difference between the concessive conjunctions, on the one hand, and other items with a concessive meaning, such as the verbs ning-kê/ning-yuân/ning-kên ‘would rather’ just discussed. Only the former will be included in the discussion focusing on the precise status of conjunctions (cf. section 6 below).

3.5 Temporal adjuncts

3.5.1. Complex DPs headed by shìhou ‘time’ (embedded in a PP or not)
3.5.2. Temporal adjunct PostPs (embedded in a PP or not)
3.5.3. Temporal adjunct clauses
3.5.4. Temporal adjuncts in sentence-final position

The reason why we talk about temporal adjuncts here instead of temporal clauses is due to the fact that the majority of the Chinese equivalents of temporal clauses in English turn out to have the form of DPs, PPs or PostPs (Postpositional Phrase).

3.5.1. Complex DPs headed by shìhou ‘time’ (embedded in a PP or not)
Temporal clauses expressing ‘time when’ can be encoded by the DP headed by shìhou ‘time, moment’ preceded by a relative clause.

(87) Tā dào Bèijīng de shìhou, tiānqì bù tài hǎo.
he arrive Beijing SUB time weather NEG too good
‘When he arrived at Beijing, the weather was not good.’

(= ‘The time when he arrived at Beijing, …’

This complex DP can be the complement of the preposition zài ‘at’.

(88) a. [PP zài [DP nà ge [NP [CP hái méi yǒu rénlèi ] de shìhou ]] at that CL still NEG have humans SUB time
‘at the time when humans did not exist yet’

b. [PP zài [DP [CP hái méi yǒu rénlèi de ]] nà ge shìhou ]
at still NEG have humans SUB that CL time
‘at the time when humans did not exist yet’

(89) [PP zài [DP [CP nǐ yùdào kùnnán de] shìhou ]] at 2SG meet difficulty SUB time
‘at the time when you encounter difficulties’

As illustrated in (88a-b), shìhou ‘time, moment’ behaves like other NPs in Chinese insofar as it allows for the sequence [demonstrative + classifier] to either precede or follow the relative clause.23

23 The two possible orders are illustrated here with the NP huàjiā ‘painter’:

(i) nà ge wǒ zuòtiān jiàn-guò de huàjiā
that CL 1SG yesterday see-EXP SUB painter

(ii) wǒ zuòtiān jiàn-guò de nà ge huàjiā
1SG yesterday see-EXP SUB that CL painter
Note that the preposition "zài ‘at’ cannot select a clausal complement, hence the parsing in (89) above where it is the complex DP headed by shihou ‘time’ that is the complement of "zài ‘at’.

(90) *zài [TP CP hái méi yǒu rénlèi]
at still NEG have humans
(Intended: ‘when humans did not exist yet…..’)

Another preposition that can take a temporal DP as complement is dāng ‘at’.24

(91) [PP dāng [DP [CP nǐ yùdào kùnnán] de shíhòu]
at 2SG meet difficulty SUB time
‘(the time) when you encounter difficulties…..’

However, unlike zai ‘at’, dāng ‘at’ only allows complex DPs (cf. Lü Shuxiang 2000: 149):

(92) a. *dāng [zhè ge/ nà ge shíhòu]
at this CL/ that CL time
b. *dāng [1991 nián]
at 1991 year

(93) a. zài [zhè ge/ nà ge shíhòu]
at this CL/ that CL time
‘at this/that time’

b. zài [1991 nián]
at 1991 year
‘in the year 1991’

On a par with zài ‘at’, dāng ‘at’ cannot take a clausal complement:

(94) a. *dāng [TP hái méi yǒu rénlèi]
at still NEG have humans
(Intended: ‘when humans did not exist yet…..’)

b. *dāng [TP tā qù-le yīyuàn]
at 3SG go-PERF hospital
(Intended: ‘when he went to the hospital…..’)

This generalization is at first sight contradicted by the marginal acceptability of (95) where dāng ‘at’ is followed by a clause.

(95) ?Dāng [TP nǐ yùdào kùnnán],
at 2SG meet difficulty
nǐ yào jìde lái zhǎo wǒ. 2SG must remember come fetch me

‘the painter I met yesterday’

24 Chao (1968: 119) translates dāng as ‘being right at’.
‘(The moment) when you encounter difficulties, do remember to call upon me.’

Note, though, that native speakers prefer to complete the sentence by adding *de shihòu* ‘the time’, which again results in a nominal complement for *dāng* ‘at’:

(96) Dāng [DP [nǐ yùdào kùnnán] de shihòu],
    at 2SG meet difficulty SUB time
nǐ yào jìde lái zhào wǒ.
2SG must remember come fetch me
‘The moment when you encounter difficulties, do remember to call upon me.’

Accordingly, (95) can be plausibly analyzed as containing an implicit (*de*) *shíhou* ‘time’. In other words, *dāng* ‘at’ in (95) selects a DP complement, as it does in (96) (cf. (97)):

(97) [PP dāng [DP [nǐ yùdào kùnnán] {de shihòu / Ø}]],
    at 2SG meet difficulty SUB time
‘the moment when you encounter difficulties,…’

This analysis of *dāng* ‘at’ as always selecting a (complex) DP is confirmed by the following set of data.

If *dāng* ‘at’ could not only select a DP, but also a clausal complement, hence function as a C, this would entail that the CP headed by *dāng* in (98) and (99) is a relative clause modifying *shihòu* ‘time’ and *jǐge yuè* ‘several months’, respectively.

(98) # [DP [CP dāng [nǐ yùdào kùnnán] de shihòu]], …
    at 2SG meet difficulty SUB time
‘the moment when you encounter difficulties,…’

(99) # [DP [CP dāng [tā zài Shànghǎi] de zhè jǐ ge yuè]], …
    at 3SG be.at Shanghai SUB this several CL month 3SG every.day eat Shanghai.dumplings
‘The few months he stayed in Shanghai, he ate Shanghai dumplings every day.’

Importantly, under this analysis, the sequence *dāng… shihòu/ zhè jí-ge yuè* being a DP should be acceptable in the subject position, contrary to fact.

(100) *[TP [PP Dāng [DP [tā dāying wǒ qiūhūn] de shihòu]]]
    at 3SG accept 1SG proposal SUB time
yě jiù shì wǒ zuì kāixīn de shihòu].
also then be 1SG most happy SUB time
[Intended: ‘The moment she accepts my proposal will also be the moment that I will be happier than ever.’]

(101) *[TP [PP Dāng [DP tā zài Shànghǎi] de zhè jí-ge yuè]]
    at 3SG be.at Shanghai SUB this several-CL month pass DE too fast
[Intended: ‘The few months he stayed in Shanghai passed too fast.’]
This shows that dāng…shíhou/zhè jì-ge yuè is in fact a PP on a par with zài…de shíhou; (100) - (101) as well as (102) are unacceptable, because PPs are excluded from the subject position in Chinese (cf. Djamouri/Paul/Whitman 2013 for further discussion).

(102) *[TP [PP Zài [DP [nǐ gōngzuò] de shíhou]]
   at 2SG work SUB time
   yě jiù shí wǒ zuì kòngxián de shíhou].
   also then be 1SG most free SUB moment
   (Intended: ‘The time you are at work is also the time I’m the most at leisure.’)

That it is indeed the PP vs DP status which is at stake here is demonstrated in (103) - (105) below, where the corresponding DPs are acceptable in subject position:

(103) [TP [DP Tā zài Shànghǎi] de zhè jì ge yuè]
   3SG be.at Shanghai SUB this several CL month
   guò de tài kuài].
   pass DE too fast
   ‘The few months he stayed in Shanghai passed too fast.’

(104) [TP [DP Tā dāying wǒ quíhūn de shíhòu ]
   3SG accept 1SG proposal SUB time
   yě jiù shí wǒ zuì kāixīn de shíhòu].
   also then be I most happy SUB time
   ‘The moment she accepts my proposal will also be the moment that
   I will be happier than ever.’

(105) [TP [DP Nǐ gōngzuò de shíhòu]]
   2SG work SUB time
   yě jiù shí wǒ zuì kòngxián de shíhòu].
   also then be 1SG most free SUB time
   ‘The time you are at work is also the time I’m the most at leisure.’

Last, but not least, while zài ‘at’ can select a DP complement, it cannot select a PP complement, irrespective of whether this PP is headed by zài ‘at’ or another preposition such as dāng ‘at’. This illustrates a general constraint holding for Chinese prepositions viz. that they cannot select another PP as complement (cf. Djamouri, Paul & Whitman 2013).

(106) *[PP zài [PP {dāng/zài}]
   at at
   [NP [CP dàjiā jīhū kuài juéwàng de] shíhòu ]],
   everyone nearly soon desperate SUB time
   (Intended: ‘at the time when everybody was on the verge of complete despair …’)

To conclude this discussion, dāng is a preposition on a par with zài exclusively selecting a (complex) DP complement. For the marginally acceptable cases where dāng is followed by a clause, we have argued in favor of the presence of an implicit DP containing this clause (cf. (97) above).

3.5.2. Temporal adjunct PostPs (embedded in a PP or not)
Let us now turn to temporal adjuncts in the form of Postpositional Phrases. (For postpositions as distinct from nouns, cf. Paul 2015, ch. 4 and references therein.) Postpositions such as ǐhòu ‘after’, ǐqián ‘before’ and ǐlái ‘since’ can be preceded both by DPs and by clauses:

(107) a. [PostP [DP wūyué] [Post° ǐhòu / ǐqián]]
   May after / before
   ‘after/before May’

   b. [PostPP [NP [CP tā dū dàxué] [N° Ø]] [Post° ǐqián]]
   3SG study university before
   ‘before she enrolled for studies at the university’

(108) a. [PostP [DP jīnnián nián-chū] [Post° ǐlái]]
   this.year year-beginning since
   ‘since the beginning of this year’

   b. [PostPP [NP [CP tā dū dàxué] [N° Ø]] [Post° ǐlái]]
   3SG study university since
   ‘since she enrolled for studies at the university’

As indicated in the labeled bracketing for (107) and (108), the DP preceding a postposition is indeed selected as its complement. By contrast, this is not the case for clauses; instead the clause itself is first construed with a covert noun and it is the resulting NP that in turn is selected by the postposition. This analysis is necessary in order to account for the set of data below, starting with the observation already made above (cf. section 3.5.1, (90)) that the preposition zài ‘at’ cannot select a clausal complement:

(109) a. *[PrepP [Prep° zài] [TP/CP tā dū dàxué]]
   at 3SG study university

   b. [PrepP [Prep° zài] [DP [TP/CP tā dū dàxué] de]
   at 3SG study university SUB
   [shíhòu/ nà jǐ nián]]
   time / that several year
   ‘at the time/during the years when she was at university’

(110) a. [PrepP [Prep° zài] [PostP [DP 2017 nián] [Post° ǐqián / īhòu]]]
   at 2017 year before/after
   ‘before/after the year 2017’

   b. [PrepP [Prep° zài] [PostP [NP [TP/CP tā dū dàxué] [N° Ø]]]
   at 3SG study university
   [Post° ǐqián / īhòu]]
   before/after
   ‘before/after she got enrolled at the university’

As illustrated in (109) - (110), the preposition zài ‘at’ can take a DP complement (cf. 109b) or a PostP complement (cf. 110a, b), to the exclusion of a clausal complement (cf. 109a). In (110b), the PostP complement of zài ‘at’ contains the clause tā dū dàxué ‘she studies at university’. If that clause were directly selected as complement by ǐqián/ǐhòu itself, this
would entail complementizer status for *yìqián/yìhòu*, hence CP status for tā dù dàxué *yìqián/yìhòu* ‘before/after she got enrolled at the university’. However, as we just showed, zài ‘at’ cannot take a clausal complement. This leads to the analysis adopted for (110b) where *yìqián/yìhòu* are not complementizers but postpositions which select a nominal projection; it is the null nominal head of the latter and not the postposition itself that selects the clause as its complement.

Furthermore, the unacceptability of (109a) confirms that in (110b) the clause tā dù dàxué ‘she studies at university’ must be construed with the postposition (via the nominal null head) and not with the preposition zài ‘at’. Finally, (109a) also shows that the DP complement of zài ‘at’ cannot contain a null N head, because otherwise (109a) should be well-formed.25

Turning now to (111) with *yǐlái* ‘since’, it is important to note that a PostP headed by *yǐlái* ‘since’ can only be selected by a “path” preposition such as *zìcóng* ‘from’, but not by “place” preposition such as zài ‘at’, for obvious semantic reasons.

_{(111) a. *[PrePP [Prep° zài] [PostPP [CP tā dù dàxué] [N° Ø]] [Post° yǐlái]] since

\[ \text{at} \text{3SG study university} \]

\[ \text{since} \]

b. [PrePP [Prep° zìcóng] [PostPP [NP [CP tā dù dàxué] [N° Ø]] [Post° yǐlái]] since 'since she got enrolled at the university’}

Note in this context that the preposition *zìcóng* ‘from’ can also select a PostP headed by *yìhòu* ‘after’ but not headed by *yìqián* ‘before’, again for obvious semantic reasons.

_{(112) [PrePP [Prep° zìcóng] [PostPP [NP [CP tā dù dàxué] [N° Ø]] [Post° yǐhòu/ *yǐqián]] after / before

\[ \text{from} \text{3SG study university} \]

\[ \text{since} \]‘after she enrolled for studies at the university’

(Lit.) ‘from after she got enrolled at the university on’

(Lit. ??’from before she got enrolled at the university on’

_{(113) *[PrePP [Prep° zìcóng] [NP [CP tā dù dàxué ] de] [N° shǐhòu]]

\[ \text{from} \text{3SG study university SUB time} \]

(Subtitle: ‘from when she got enrolled at university’)

\[ \text{from}}

25 An anonymous reviewer raises the question why a null N head is possible for postpositions, but not for the preposition zài. Probably, prepositions do not behave in a uniform way; some prepositions seem indeed to be able to take a null nominal head under certain circumstances. For instance, while *cóng* in (i) visibly cannot take a complement with a null nominal head, this is possible when the *cóng*-PP occupies the specifier position of the preposition *dào*, as in (ii). (Cf. Paul (2015: 134, section 4.4.3 for further discussion of ‘*cóng* XP dào *YP’):

_{(i) *[PP cóng [NP [CP tā jìn dàxué] [N° Ø]] ]

\[ \text{from} \text{3SG enter university} \]

(ii) [dào-PP [cóng-PP cóng [NP [CP tā jìn dàxué] [N° Ø]] ]

\[ \text{from} \text{3SG enter university} \]

\[ \text{from} \text{3SG PASS expel} \]

‘from the moment he entered university until the moment (when) he got expelled’
The preposition  dāng  ‘at’, finally is incompatible with PostPs in general, be they headed by  yǐqián  ‘before’,  yǐhòu  ‘after’ or  yǐlái  ‘since’; this is due to  dāng  selecting (complex) DPs only, to the exclusion of PostPs. Incidentally, this confirms the difference between postpositions, on the one hand, and nouns, on the other.

3.5.3. Temporal adjunct clauses
Finally, there also seem to exist clausal temporal adjuncts.

(114)  
[[Adv.cl. Chūntiān dào le] [TP tā cái hui lái]].

spring arrive-PERF 3SG only.then will come

‘Only when spring has arrived will he come.’

(115)  
[Adv.cl. Yǒu kèrén lái] [TP tā cái hui bǎ zuì hǎo de chá náchūlái].

BA most good SUB tea take.out

‘Only when there are guests, will he take out his best tea.’

However, as reflected in the translation, these clauses are of a hybrid nature combining temporal and conditional semantics. It is therefore not clear whether they can be grouped together with the other temporal adjuncts. (For a discussion of temporal adjuncts - including temporal clauses - when in a position below the matrix subject, cf. section 5.1 below.)

To summarize, temporal adjuncts come in three different categories: (i) complex DPs headed by  shíhòu  ‘time’ modified by a relative clause, (ii) PostPs headed by  yǐqián  ‘before’,  yǐhòu  ‘after’ or  yǐlái  ‘since’, and (iii) temporal clauses just illustrated in (114) and (115). Temporal DPs and PostPs can in turn be selected by different prepositions. The preposition  dāng  can only take a complex DP headed by  shíhòu  ‘time’ as complement. By contrast, the preposition  zài  ‘at’ combines both with DPs and PostPs (except for PostPs headed by the path postposition  yǐlái  ‘since’). As for the preposition  zìcóng  ‘from…on’, it requires a PostP complement headed by  yǐhòu  ‘after’ or  yǐlái  ‘since’ (to the exclusion of PostPs headed by  yǐqián  ‘before’).

3.5.4. Temporal adjuncts in sentence-final position
Temporal adjuncts are only acceptable in sentence-final position when in the form of PPs.

When the complement of the preposition is a DP headed by  shíhòu  ‘time’, it is the information conveyed by the sentence-initial main clause that is presented as more prominent, while no emphasis on the sentence-final temporal adjunct itself is observed. This is a semantic effect not observed for the other types of adverbial clauses discussed above.

(116) Wǒ kěndìng huì lái kàn nǐ de,

1SG certainly will come see 2SG DE

?!(dāng) wǒ yǒu shíjiān de shíhòu.

at 1SG have time SUB time

‘I will certainly come to see you, when I have time.’

(117) Nǐ yídìng yào jìde lái zhǎo wǒ,

2SG certainly must remember come fetch me

*(zài) nǐ yūdào kùnnán de shíhòu.

at 2SG meet difficulties SUB time
‘Do remember to call upon me, when you encounter difficulties.’

(118) Dàjiā dōu chūqù-le, *(zài) wǒ huì jiā de shìhòu.
   everybody all go.out-perf at 1SG return home SUB time
   ‘Everybody had gone out, when I came home.’

Concerning sentence-final PPs with a PostP-complement, headed by yǐqián ‘before’, yīhòu ‘after’ or yīlái ‘since’, they have the status of added-on afterthoughts, and no special emphasis on the sentence-initial clause is observed:

(119) a. (Zícóng) tā rù xué yīlái
   since 3SG enter school since
   fùmǔ měitiān gěi tā dà diànhuà.
   parents every.day to 3SG make call
   ‘Since she got enrolled at university, her parents call her every day.’

   b. Fùmǔ měitiān gěi tā dà diànhuà,
      parents every.day to 3SG make call
      *(zícóng) tā rù xué yīlái.
      from 3SG enter school since
      ‘Since she got enrolled at university, her parents call her every day.’

(120) a. (Zài) tā rù xué {yīhòu/yǐqián},
   at 3SG enter school after / before
   fùmǔ měitiān gěi tā dà diànhuà.
   parents every.day to 3SG make call
   ‘After/before she got enrolled at university, her parents called her every day.’

   b. Fùmǔ měitiān gěi tā dà diànhuà.
      parents every.day to 3SG make call
      *(zài) tā rù xué yīhòu/yǐqián.
      at 3SG enter school after / before
      ‘After/before she got enrolled university, her parents called her every day.’

Note that the preposition zícóng ‘since’ and zài ‘at’ is obligatory when temporal adjuncts are in the sentence-final afterthought position.

3.6. Interim summary
In the preceding sections, we have examined in detail different types of adverbial clauses: conditionals, causal clauses, inferential clauses, concessive clauses and temporal adjuncts. While for all these types the sentence-initial position is the default order, the sentence-final position is likewise possible. Based on the syntactic contraints holding for adverbial clauses in sentence-final position, we have concluded that neither position can be obtained from the other by movement; instead, an adverbial clause is directly merged in either the sentence-initial or the sentence-final position.
Concerning the status of the “conjunctions”, we have observed their categorial heterogeneity; section 6 will address this issue and provide precise case-for-case analyses.

3.7. Combinations of adverbial clauses
To complete our overview, this section briefly turns to cases where several adverbial clauses of different types co-occur in the position preceding the main clause:

(121) Rúguō Zhāngsān zhīdào dehuà,
    if Zhangsan know C(-root)
jíshī méi yǒu shìjiān, tā yě hùi qù de.
even if NEG have time 3SG also will go DE
   ‘If Zhangsan had known, even though he didn’t have time, he would have come.’

In (121), there are two adverbial clauses, the conditional and the concessive preceding the main clause. The adverb yě ‘also’ in the main clause correlates with the concessive clause (jíshī ‘even if’) not with the conditional clause (ruguo ‘if’). Interestingly, if the order is inverted, the adverb in the main clause still correlates with the concessive clause, as shown in (122). This seems to suggest that a concessive clause is more prominent than a co-occurring conditional clause.

(122) Jíshī Zhāngsān méi yǒu shìjiān,
even Zhangsan NEG have time
rúguō zhīdào dehuà, tā yě hùi qù de.
if know C(-root) 3SG also will go DE
   ‘Even if Zhangsan didn’t have time, had he known, he would have come.’

We will not pursue this semantic issue here, but briefly address the syntactic aspect of the above examples.

As illustrated in (123) and (124), two different analyses are possible. Within the topic scenario (cf. (123)) where adverbial clauses are treated as sentential topics hosted by SpecTopP, we have two recursive TopPs, the higher one hosting the conditional clause and the lower one the concessive clause. This multiple topic configuration also allows for the opposite order: concessive clause > conditional clause.

(123) [TopP1 [cond.cl. Rúguō Zhāngsān zhīdào dehuà],
    if Zhangsan know C(-root)]
[Top1’ [TopP2 [concess.cl. jíshī méi yǒu shìjiān],
    even if NEG have time]
[Top2’ [TP main cl. tā yě hùi qù de]]).
   3SG also will go DE
   ‘If Zhangsan had known, even though he didn’t have time, he would have come.’

In the adjunction scenario (cf. (124)), adverbial clauses do not have the status of the topics and are analyzed as ordinary adjuncts to the TP. Again, multiple adjunction gives rise to the configuration in (124).

(124) [TP [cond.cl. Rúguō Zhāngsān zhīdào dehuà ],
    if Zhangsan know C(-root)]
[TP [concess.cl. jíshī méi yǒu shìjiān],
    even if NEG have time]
[TP main cl. tā yě hùi qù de]]).
   3SG also will go DE
   ‘If Zhangsan had known, even though he didn’t have time, he would have come.’
Like the topic analysis, the adjunction analysis can also capture the alternative order ‘concessive clause > conditional clause’ in (122).

(125) illustrates another combination of a conditional and a concessive clause.

(125) Jíshǐ nǐ zuìhòu bù néng lái,
even.if 2sg in.the.end NEG can come
zhīyào nǐ tíqián gèn wǒmen shuō yī-shēng,
as.long.as 2SG in.advance with 1PL tell one-sound
yě bù hui yǒu wèntí de.
also neg will have problem DE
‘Even if in the end you cannot come, as long as you tell us in advance, there will be no problem.’

Interestingly enough, in both examples (122) and (125), the conditional clause can also occupy the sentence-final position (cf. (126-127) below).

(126) Jíshǐ Zhāngsān méi yǒu shìjiān,
even.if Zhangsan NEG have time
tā yě huì qù de,
3SG also will go DE
dāngrán, rúguī tā shìxiān zhīdào dehuà.
of.course if 3SG beforehand know C(-root)
‘Even if Zhangsan didn’t have time, he would have come, of course, if he had known beforehand.’

(127) Jíshǐ nǐ zuìhòu bù néng lái,
even.if 2sg in.the.end neg can come
yě bù hui yǒu wèntí de,
also neg will have problem DE
zhīyào nǐ tíqián gèn wǒmen shuō yī shēng.
as.long.as 2sg in.advance with 1pl tell 1 sound
‘Even if in the end you cannot come, there will be no problem, as long as you tell us in advance.’

As already observed for conditional clauses in sentence-final position in complex sentences with a single adverbial clause (cf. section 3.1.2 above), here as well, the conditional clause draws the attention of the hearer by providing the additional condition.

Sentence (128) illustrates a different type of complex sentence with more than one adverbial clause, given that the complex sentence contains another complex sentence here:

(128) Shìqíng běnshēn suìrán pro; bù shì zhème de de shìqíng,
matter in.itself although NEG be so big SUB matter
dànshì [yǐnwèi pro; dàiyǒu pùbiànxing, but because bear universality
suǒyǐ pro; hǎishì zhīde zhòngshì].
therefore still be.worth take.serious
‘The matter in itself, although it is not such a big matter, but because it bears a universal character, therefore it should still be taken serious.’

(Lü Shuxiang 2000: 517)
(128) begins with a concessive clause introduced by suīrán ‘although’; the following main clause starting with dànshì ‘but’ in turn contains another complex sentence consisting of a causal clause (yǐnwèi ‘because’) and the corresponding suǒyì ‘therefore’ main clause. As a consequence, the order of the adverbial clauses cannot be changed.

Crucially, in (128) the three null subjects are all co-indexed with the sentence-initial topic DP shìqíng ‘matter’, in order to ensure that the “comment” part is “about”, i.e. related to the topic DP. Another noteworthy feature of (128) is that the conjunction itself is not sentence-initial, but preceded by a DP. As we will see in the next section, this case may give rise to several different parsings.

4. Complex cases: DP > conjunction…
4.1. DP conjunction Ø…, [main clause DP …]
4.2. DP conjunction Ø…, [main clause Ø …]
4.3. DP conjunction DP…, [main clause Ø …]
4.4. DP conjunction DP…, [main clause DP…]
4.5 Interim summary

So far, we have discussed the cases where the adverbial clause either precedes or follows the main clause. We have concentrated on providing “simple”, “what you see is what you get” cases where the limits of the adverbial clause and the main clause domain can be “read off” the surface. This is the case when the conjunction is in the sentence-initial position and when both the adverbial and the main clause each contain an explicit subject, which may be co-indexed (cf. (129b)).

(129) a. [Adv.cl Conj subject-DPi …], [Main cl subject-DPj …]
   Suīrán tā bù tōngyì wǒ háishi yào qù.
   although 3SG NEG agree 1SG still 1SG want -PERF
   ‘Although he does not approve, I still will go.’

b. [Adv.cl Conj subject DPi …], [Main cl subject DPj …]
   Yǐnwèi tā xiāng qù, suǒyì tā jiù qù-le.
   because 3SG want go therefore 3SG then go-PERF
   ‘Because he wanted to go there, so he went there.’

Against this backdrop, we now turn to complex sentences where a straightforward analysis is not always available, because the same surface string may give rise to different parsings. This is the case for complex sentences where a DP appears in the sentence-initial position, i.e. preceding the conjunction, and not following it, as was the case in the data discussed so far.

The main issue to be addressed is the position of this sentence-initial DP: is it contained within the adverbial clause or is it part of the matrix domain? If the DP belongs to the matrix domain, has it been merged in situ or moved there? The availability of different parsings depends on quite a number of factors: (i) (non-) coindexation of the subjects in the adverbial and the main clause; (ii) presence/absence of null subjects and (iii) last - but not least - the still to be determined categorial status of conjunctions (complementizers vs adverbs). To systematically spell out these different options and to demonstrate how these three factors interact with each other is precisely the task of this section. As far as we can see, the coexistence of these numerous analytical possibilities has so far not been systematically pursued.
In the literature. Importantly, we will show throughout this article that these analytical options are to be maintained in parallel.

In section 4.1, we first examine the case where besides the DP preceding the conjunction, there is only an overt (pronominal) subject in the main clause, but no DP to the right of the conjunction in the adverbial clause:

(130) DP conjunction Ø…, [main clause  DP ….]

Zhāngsān rúguǒ è-le,
Zhansan if be.hungry-PERF
[ tà hui qù mái dōngxī de].
3SG will go buy thing  DE
‘If Zhangsan is hungry, he will go and buy something.’

In section 4.2, the conjunction is again preceded by a DP and there is no DP in the adverbial clause to the right of the conjunction; in addition, the main clause lacks an explicit subject as well. We therefore need to determine whether this sentence-initial DP is to be construed as the adverbial clause subject, as the matrix subject or rather as the matrix topic.

(131) DP conjunction Ø…, [main clause  Ø ….]

Zhāngsān rúguǒ è-le,
Zhansan if be.hungry.Perf
[Ø hui qù mái dōngxī de].
will go buy thing  DE
‘If Zhangsan is hungry, he will go and buy something.’

In section 4.3, we discuss the case where a DP again precedes the conjunction, and where in addition the adverbial clause has an explicit subject following the conjunction. The issue to be addressed is whether the main clause subject, which is implicit, is either a pro bound by the sentence-initial DP or rather the trace/copy left after the extraction of the DP to the sentence-initial position.

(132) DP conjunction  DP…, [main clause  Ø ….]

Zhāngsān rúguǒ tā zhēnde xiāng qù dehuà,
Zhansan if 3SG really want go C(-root)
[Ø kěnding hui qù de].
certainly will  go  DE
‘If Zhangsan really wants to go, then he will go for sure.’

In section 4.4 finally, we turn to the case where both the adverbial clause and the main clause have an explicit subject; in addition, there is also the DP preceding the conjunction. We therefore need to determine whether this sentence-initial DP is a (base-generated) topic situated in the adverbial clause or a matrix topic:

(133) DP conjunction  DP…, [main clause  DP….]

Zhāngsān rúguǒ tā è-le,
Zhansan if 3SG be.hungry-PERF
If Zhangsan really wants to go, then he will go for sure.’

These four different cases are summarized in the table below.

<table>
<thead>
<tr>
<th>DP</th>
<th>Adverbial Clause</th>
<th>Main Clause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conjunction</td>
<td>Subject 1</td>
<td>Subject 2</td>
</tr>
<tr>
<td>4.1 yes</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>4.2 yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>4.3 yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>4.4 yes</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

4.1. DP conjunction Ø… [main clause DP pron ….]

In this section, we discuss the case where besides the DP preceding the conjunction, there is only an overt (pronominal) subject in the main clause, but none in the adverbial clause to the right of the conjunction.

If Zhangsan is hungry, he will go and buy something.

Given that the main clause has an explicit subject, i.e. tā ‘he’, it is excluded for Zhāngsān to have been extracted from the main clause. This leaves two options.

Option 1: Zhāngsān is the matrix topic

In the first option, Zhāngsān is an in-situ matrix topic that controls the subject pro within the adverbial clause and is co-indexed with the pronoun tā ‘s/he’ in the main clause. In this case, the matrix topic Zhāngsān can be separated from the rest of the sentence by an intonational pause, represented by a comma in (136):

If Zhangsan is hungry, …

For the parsing of Zhāngsān as a matrix topic, the categorial status of rúguō, C vs sentential adverb, is not relevant. In (137a), rúguō is analysed as a C-head selecting a TP complement whose subject pro is coindexed with the matrix topic DP. In addition, rúguō ‘if’ can also be analysed as a sentential adverb, which can either precede (137b) or follow the subject (137c).

(137) a. rúguō: C

b. rúguō: sentential adverb
c. ráguô: sentential adverb

\[
\text{Zhangsan if}
\]

\[
[\text{main cl.TP tāi } \ldots]]
\]

3SG

Option 2: Zhangsan as subject of the adverbial clause

As a second option, Zhangsan can be construed as the subject of the adverbial clause, whose position depends on the status to be assigned to the conjunction, here ráguô ‘if’. This gives rise to two sub-cases.

Option (2-A): ráguô as adverb

If ráguô ‘if’ is an adverb, then Zhangsan occupies the canonical SpecTP subject position within the adverbial clause:

\[
(138) \begin{align*}
[\text{matrix cl. & adv.cl.TP Zhangsan; ráguô } \ldots \text{]} & \quad [\text{main cl.TP tāi } \ldots]]
\end{align*}
\]

Zhangsan if 3SG

Option (2-B): ráguô as C

An analysis of ráguô ‘if’ as a C head selecting a clausal complement seems at first sight excluded, for this would imply that Zhangsan (as the adverbial clause subject) has been extracted from the position to the right of ráguô, a movement barred by island constraints. However, the very grammaticality of sentence (135) shows that no such island violation has occurred. There are two alternative ways to account for this.

One is Huang’s (1984) Generalized Control Rule provided in (139) below: no extraction has taken place; instead, the DP is a base-generated topic within the adverbial clause (cf. (140)) and controls the (adverbial) subject pro to the right of ráguô ‘if’.

\[
(139) \text{The Generalized Control Rule (GCR)}
\]

\[
\text{(Huang, Li & Li 2009: 209)}
\]

An empty pronoun is coindexed with the closest nominal.

\[
(140) \begin{align*}
[\text{matrix cl. & adv.cl. Zhangsan; [rágúo } \text{ [TP pro]} \ldots \text{]} & \quad [\text{main cl.TP tāi } \ldots]]
\end{align*}
\]

Zhangsan if 3SG

The second alternative is to allow for A-bar extraction from islands, which has been observed to be possible with predicates expressing non-episodic eventualities, such as xīnshǎng ‘appreciate’ (cf. Niina Zhang 2002, Victor Junnan Pan 2014).

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26 Naturally, this presupposes that adverbial clauses have their own left periphery and project up to CP, an issue to be addressed in section 6 below.

27 This is reminiscent of Rizzi’s (1997: 328, note 10) observation – not mentioned by Zhang (2002) – that a “restricted class of verbs (aimer [‘love’], adorer [‘adore’], connaître [‘know’]) has [the capacity] of licensing pro in object position with a referential interpretation.” Rizzi illustrates this contrast with the French examples below:

(i) Les gâteaux, j’adore

the.PL cake 1SG.adore

‘The cakes, I love.’
Let us summarize Option 1 and Option (2-AB). When the conjunction is analyzed as an adverb, a DP preceding the conjunction in a complex sentence where the main clause has an explicit subject, either occupies the matrix topic position (cf. 137b, c) or the SpecTP subject position within the adverbial clause (cf. 138). Under a C analysis of the conjunction, the sentence-initial DP can be either analyzed as matrix topic (cf. 137a) or as the topicalized subject of the adverbial clause (cf. 140, 141).

Adopting the GCR (cf. 142), no extraction is involved; instead the topic DP in the matrix clause or in the adverbial clause is base-generated and controls the subject pro inside the adverbial clause. By contrast, a derivation via movement (cf. 143) relies on the possibility of A-bar extraction from sentences containing non-episodic predicates. The alternative positions for the DP preceding the conjunction are indicated by wavy brackets.

(142) GCR:
\[
\text{MatrixTopP} \{\text{DP}_1\} [\text{Adv. cl.} \{\text{DP}_1\} \text{Conj pro}_1 + vP], \text{[Main clause-TP subject-DP}_2 + vP]\]

(143) Extraction:
\[
\text{MatrixTopP} \{\text{DP}_1\} [\text{Adv. cl.} \{\text{DP}_1\} \text{Conj DP}_2 + vP], \text{[Main clause-TP subject-DP}_2 + vP]\]

The derivation via the GCR and the derivation via A-bar extraction from sentences containing non-episodic predicates will be compared in section 6 below.

4.2. DP conjunction Ø…, [main clause Ø ….]
The configuration examined here is the same as in section 4.1 above, modulo the difference that in (144) the main clause lacks an explicit subject as well:

(144) Zhāngsān rúguō è -le,
Zhāngsān if be.hungry-PERF
[huì qù mǎi dōngxi de].
will go buy thing DE
‘If Zhāngsān is hungry, he will go and buy something.’

(ii) Les gâteaux, je (*les) ai mangés à midi.’
the.PL cake 1SG them have eaten.PL at noon
‘The cakes, I ate (them) at lunch.’

While the left-dislocated object of an activity verb must be related to a resumptive clitic pronoun within TP, this is not the case for psych predicates such as ‘adore’.

Matters seem more complex in Chinese where in addition to non-episodic predicates, complex episodic predicates containing an expression of frequency also seem to be transparent to A-bar extraction, for reasons still not understood:

(iii) [ Lǐsī [CP rúguō Zhāngsān mà -le jǐ shēng Lǐsī ]
Lǐsī if Zhāngsān scold-PERF several sound Lǐsī
[TP Xiǎohóng jiū hén bāngāoxìng]
Xiaohóng then will very unhappy
‘Lǐsī, if Zhāngsān scolds [him] for a while, then Xiaohóng will be very unhappy.’
As for the configuration ‘DP conjunction Ø…, [main clause DP <pron …]’ in (135) above, the first option to be considered here is that the sentence-initial DP is base-generated in matrix TopP and binds the null subjects in the adverbial clause and the main clause via the GCR; again, as observed above (cf. 136), this matrix topic can be separated from the rest of the sentence by an intonational pause, indicated by the comma:

Option 1: Zhāngsān as in-situ matrix topic

(145) \[matrixTopP Zhāngsān(,)\]

As far as we can see, both null subjects must be coindexed with the matrix topic DP; in fact, this is the configuration we have briefly alluded to when discussing example (128) (repeated here in (146)) in section 3.6 above, where the complex sentence contains another complex sentence:

(146) Shìqíng běnshēn suìrán proi bù shì zhème dà de shìqíng, matter in.itself although NEG be so big SUB matter
dànshì \[yīnwèi proi dàiyǒu pūbiànxing,\]
but because bear universality
suǒyǐ proi háishi zhíde zhòngshì].
therefore still be.worth take.serious
‘The matter in itself, although it is not such a big matter, but because it bears a universal character, therefore it should still be taken serious.’

(Lü Shuxiang 2000: 517)

Option 2:

(147) a. \[MatrixTopP \[Adv.cl. Conj DP \+ \vP\], \[Main cl. proi \+ \vP\]]

b. \[Adv.cl. \[TopP DP \[Adv.cl. Conj DP \+ \vP\]]\], \[Main cl. proi \+ \vP\]

In the second option, the sentence-initial DP is construed as the extracted adverbial clause subject, moved to either matrix TopP (cf. (147a)) or to the topic position within the adverbial clause (cf. (147b)) (assuming for the moment that the adverbial clause projects up to CP and contains a left periphery). As outlaid in the preceding section, this extraction is subject to the constraint in terms of non-episodic predicates. (In the case of episodic eventualities, the DP position in (147b) can be accommodated by the GCR, i.e. the adverbial clause then contains a subject pro controlled by the DP.)

Option 3:

(148) \[Matrix TopP DP \[Adv.cl. Conj proi \+ \vP\], \[Main cl. DP \+ \vP\]]

In the third option, the sentence-initial DP has been extracted from the main clause and its landing site must therefore be in the matrix TopP above the adverbial clause.
**Option 4:**

In the fourth option, the sentence-initial DP occupies the canonical subject position SpecTP in a *simple* sentence, with the adverbial clause adjoined to vP (on a par with non-clausal adverbs); as a result, there is *no* second null subject:

\[(149) \text{[TP DP}_1 \text{ [vP [Adv.cl. Conj } pro_1 + \text{vP] vP]]}\]

This structure will be discussed more systematically in section 5 below, which examines adverbial clauses merged below the subject.

**Option 5:**

Finally, if ruguo ‘if’ is assigned adverb status, then Zhangsan can be analyzed as occupying the SpecTP subject position within the adverbial clause (cf. section 6 below for the categorial status of conjunctions). Accordingly, there is only one null subject.

\[(150) \text{[matrix cl. [adv.cl.TP Zhangsān rúguǒ ….]} [\text{main cl.TP } pro_1 \text{ ……]]}\]

To summarize, the sentence-initial DP can be construed as a base-generated matrix topic (cf. (145)), as an extracted adverbial clause subject (cf. (147a-b) or as the extracted main clause subject (cf. (148)), as the subject in SpecTP of a *simple* sentence (cf. (149)) or as the subject in SpecTP of an adverbial clause (cf. (150)).

**4.3. DP conjunction DP\text{pron}…, [main clause Ø ….]**

This section now turns to the case with a DP preceding and following the conjunction, but where there is no explicit subject in the main clause itself.

\[(151) \text{Zhangsān rúguǒ tā zhēn de xīăng qù dehuā,}
\text{Zhangsan if 3SG really want go C(-root)}
\text{[Ø kěndīng huì qù de].}
\text{certainly will go DE}
\text{‘If Zhangsan really wants to go, then he will go for sure.’}
\]

As before, matrix TopP is a possible position for the sentence-initial DP, which is either base-generated here (cf. (152a)) or extracted from the main clause (cf. (152b)). In both cases, the DP can be separated from the rest of the sentence by a prosodic break:

**Option 1:**

\[(152) \text{a. [Matrix TopP DP}_1 \text{[[Adv.cl. Conj } tā_i + \text{vP]}(1) \text{[Main cl. } pro_1 + \text{vP]]]}\]

\text{b. [Matrix TopP DP}_1 \text{[[Adv.cl. Conj } tā_i + \text{vP]}(1) \text{[Main cl. } D\text{P}_i + \text{vP]]}\]

In both cases, the pronominal subject tā ‘s/he’ inside the adverbial must be coindexed with the topic DP; in addition the in-situ matrix topic in (152a) necessarily binds the pro in the main clause, given the requirement that the “comment” part must be related to the topic.
In the second parsing option, the sentence-initial DP occupies the subject position SpecTP in a simple sentence, with the adverbial clause adjoined to vP (a structure to be examined more closely in section 5 below).

Option 2

(153) [TP DP1 [vP [Adv.cl. Conj tā + vP] vP]]

This is the same configuration as in (149) above, modulo the presence of an overt pronominal subject (tā ‘s/he’) in (153) vs the null subject in (149). Like the latter, the adverbial clause subject tā ‘s/he’ in (153) seems to be necessarily coindexed with the matrix subject as well.

4.4. DP conjunction DPpron…, [main clause DPpron….]

In addition to the DP preceding the conjunction, both the adverbial clause and the main clause have an explicit (pronominal) subject DP.

(154) a. Zhāngsān rúguǒ tā è -le,
    Zhangsan if 3SG be.hungry-PERF
    [tā huì qù mǎi dōngxi de].
    3SG will go buy thing DE
    ‘If Zhangsan is hungry, then he will go and buy something.’

    b. Zhāngsān rúguǒ tā zhènè xiāng qù dehuà,
    Zhangsan if 3SG really want go C(-root)
    [tā kěndìng huì qù de].
    3SG certainly will go DE
    ‘If Zhangsan really wants to go, then he will go for sure.’

Accordingly, there are no potential extraction sites available and the sentence-initial DP must be analyzed as a base-generated topic, either in the matrix sentence or in the adverbial clause.

(155) a. [MatrixTopP DP1 [[Adv.cl. Conj tāi + vP], [Main cl. tāi vP]]]


Note that the analysis in (155b) presupposes complementizer status for rúguǒ ‘if’. If rúguǒ ‘if’ is analyzed as an adverb, then the sentence-initial Zhāngsān is parsed as occupying SpecTP inside the adverbial clause. In this scenario, the presence of tā ‘he’ to the right of the adverb rúguǒ ‘if’ would become unacceptable, simply because the adverbial clause cannot have a second subject, i.e. tā ‘he’:

(156) *[Adv.cl.TP DP1 Conj=adverb tāi + vP], [Main cl. subject1 vP]

The very acceptability of (154a-b) and the associated structures in (155a-b) cast doubt on the adverbial analysis of rúguǒ ‘if’. In fact, section 6 below will provide arguments in favor of the C analysis of rúguǒ ‘if’.

4.5 Interim summary
This section has discussed complex sentences where a DP appears in the sentence-initial position *preceding* the conjunction. A detailed examination was called for here, because one and the same surface string may give rise to different parsings, depending on the presence/absence of explicit subjects in the adverbial and in the main clause. Furthermore, the status to be assigned to the conjunctions plays an important role here as well and increases the number of the parsing alternatives.
5. Adverbial clauses merged below the matrix subject

This section turns to adverbial clauses occurring to the right of the matrix subject. In this case, adverbial clauses are on a par with adverbs and must be merged in a projection lower than TP. Note that T in Chinese always remains empty (cf. Ernst 1994 among others). As we will see, the possible positions within the extended verbal projection depend on the type of the adverbial clause; while conditional and causal clauses as well as temporal adjuncts are acceptable below the matrix subject, this position is excluded for concessive and inferential clauses. For the former group, we observe a further subdivision concerning their (un)acceptability in the position below auxiliaries.

5.1 Overview of the different types of adverbial clauses acceptable below the subject

Conditional clauses introduced by jǐshì ‘even if’ are acceptable in a preverbal position to the right of the subject, either above (cf. 157) or below auxiliaries (cf. 158).

(157) [TP Wǒ [\(\mathbf{T}^0 \mathcal{O}\)] [\(\mathbf{v}\) [cond.cl. jǐshì tā bù lái]]
   1SG even.if 3SG NEG come
   [\(\mathbf{v}\) yě huí yígèrén qù]].
   also will alone go
   ‘Even if he doesn’t come, I’ll go on my own.’

(158) [TP Nǐ [\(\mathbf{T}^0 \mathcal{O}\)] [\(\mathbf{v}\) wèishénme huí]
   2SG why will
   [[jǐshì jiàng xīn ] yě yào tiào cáo]]?
   even.if decrease salary also want jump trough
   ‘Why do you want to change jobs, even though the salary will be less?’

Conditional clauses introduced by rúguǒ ‘if’, however, can only be merged above the auxiliary (cf. 159) (also cf. C.-C. Jane Tang 1990: 96).

(159) [TP Wǒ [\(\mathbf{T}^0 \mathcal{O}\)] [\(\mathbf{v}\) {hui} [cond.cl. rúguǒ tā bù lái]]
   1SG will if 3SG NEG come
   jìu {hui} fā dà pīqi]].
   then will issue big temperament
   ‘If he doesn’t come, I will lose my temper.’

By contrast, causal clauses can occur either above or below auxiliaries. (cf. C.-C. Jane Tang 1990, ch. 3.2), Lin & Tang (1993):

(160) a. [TP Tā [\(\mathbf{T}^0 \mathcal{O}\)] [\(\mathbf{v}\) {yīnwèi} Lìsī bù lái]]
   3SG because Lisi NEG come
   hui {fēicháng shāngxīn]].
   will very sad
   ‘He will be very sad because Lisi does not come.’

b. [TP Tā [\(\mathbf{T}^0 \mathcal{O}\)] [\(\mathbf{v}\) {hui} {yīnwèi} Lìsī bù lái]]
   3SG will because Lisi NEG come
   fēicháng shāngxīn]].
   very sad
   ‘He will be very sad because Lisi does not come.’
While for reasons of space we cannot examine the semantic differences associated with the different positions above and below auxiliaries, the observations made by C.-C. Jane Tang (1990: 94-95, footnote 26) and Lin & Tang (1993: 64) are worth mentioning. Commenting on (162) below where the yǐnwèi ‘because’ clause follows the negated auxiliary, Lin & Tang (1993: 64) emphasize the fact that the yǐnwèi ‘because’ clause falls within the scope of negation:

(162) Nǐ bù yīnggāi/kěyǐ [yǐnwèi Lìsī shì ge míngrén] 2SG NEG should /may because Lisi be CL celebrity
suǒyǐ jiù ràng tā miănféi rúchāng therefore then 3SG free.of.charge enter
‘You should/may not let Lisi enter free of charge because he is a celebrity.’
(Lin & Tang 1993: 64; (17a); slightly changed glosses and translation; bracketing added)28

In Chinese there is thus no scope ambiguity as observed in the English translation. Accordingly, the scope relation changes when the yǐnwèi ‘because’ clause precedes the negated auxiliary (be it to the right or the left of the subject) (cf. C.-C. Jane Tang (1990: 94-95, footnote 26).

(163) {Nǐ} [yǐnwèi Lìsī shì ge míngrén] {nǐ} jiù bù 2SG because Lisi be CL celebrity 2SG then NEG
yīnggāi/kěyǐ ràng tā miănféi rúchāng. should /may let 3SG free.of.charge enter
‘Because he is a celebrity, you should/may not let Lisi enter free of charge.’

This set of facts confirms the stand defended in this article that adverbial clauses in Chinese are directly merged in their respective surface positions and not moved there.

Let us now go back to the syntactic distribution of adverbial clauses. Unlike conditional and causal clauses, concessive clauses are unacceptable below the matrix subject (also cf. Wei & Li, Part 1, section 3.2). Note that the same concessive clause is fully acceptable above the matrix subject (also cf. section 3.4 above).

(164) a. *Wǒ [suīrán tā méi yǒu qián], 1SG although he not have money

---

28 Why notwithstanding these facts Lin & Tang (1993: 65), following C.-C. Jane Tang (1990: 90), insist on C as “licensing head” for reason clauses remains mysterious. Furthermore, unlike their representation, suǒyǐ ‘therefore’ is unacceptable here.
háishì yào gēn tā jié hūn.
but want with him join marriage

b. Suīrán tā méi yǒu qián,
although he not have money
wǒ háishì yào gēn tā jié hūn.
1SG but want with him join marriage
‘Although he has no money, I (nevertheless) still want to marry him.’

(165) a. *Tā [suīrán zhèng zāi xià dà yǔ],
3SG although just PROGR fall big rain
háishì chūqù pāo bù le.
but go.out run step SFP

b. Suīrán zhèng zāi xià dà yǔ,
although just PROGR fall big rain
tā háishì chūqù pāo bù le.
3SG but go.out run step SFP
‘Although it is raining heavily right now, he still went out for a run.’

The position below the matrix subject is likewise excluded for inferential clauses, in contrast to the pre-subject position:

1SG since 2sg want go also NEG be.against

b. [Jìrán nǐ yào qù], wǒ yě bù fān duì.
since 2SG want go 1SG also NEG be.against
‘Since you want to go anyway, I will not oppose you.’

Temporal adjuncts, finally, can occur below the matrix subject. We first illustrate this for temporal DPs headed by shíhou ‘time’:

he fall rain SUB time like sing song
‘He likes singing when it rains.’

he sky dark SUB time only return home
‘He only goes home when it gets dark.’

c. Tā [DP {kèrén lái} / {lái kèrén} de shíhòu]
he guest come come guest SUB time
xīhuān duǒ zài fāngjiān lǐ.
like hide at room in
‘He likes to hide in his room when there are guests.’

In (167b-c), the relative clause modifying shíhou ‘time’ contains an explicit subject, as in (168) below. Against this backdrop, the unacceptability of (168) without the preposition zài ‘at’ is unexpected:
Visibly, it is the contiguity of the subject pronoun tā ‘he’ in the matrix clause and the subject pronoun wǒ ‘I’ in the relative clause modifying shíhou ‘time’ that leads to processing difficulties. This can be remedied by inserting the preposition zài ‘at’ (as in (168)) or an adverb, zuótiān ‘yesterday’, thus separating the two subjects at PF:

(169) Tā {zuótiān} [DP {zuótiān} wǒ shàng bān]
     he yesterday    yesterday 1sg attend work
de shíhou] qù-le yóu jū.
DE time       go-Perf   post.office
‘He went to the post office while I was working yesterday.’

Note that the adverb zuótiān ‘yesterday’ can be semantically construed either with the matrix domain or with the relative clause, as indicated by enclosing the two instances of zuótiān between wavy brackets.

Like DPs headed by shíhou ‘time’ and PPs (headed by zài ‘at’), temporal PostPs (headed by yǐqián ‘before’, yǐhòu ‘after’ and yǐlái ‘since’) are also acceptable in the preverbal position below the subject.

     he sky  dark before/after certainly will return home
‘He will certainly go home before/after it gets dark.’

b. Tā [PostP [èrcì-shījié-dàzhàn kāishǐ] yǐlái]
     he World.War.II start since
     jiù méi huí -guò jiā.
     then NEG return-EXP home
‘He has not returned home since World War II started.’

We again observe processing difficulties when the matrix clause subject tā is not separated by an intervening element from the [+human] subject of the clause embedded in the adjunct PostP:

(171) a. Tā [* (zài) wǒ rǔ xué yǐqián] jiù bǐ yè le.
     3SG    at 1SG  enter school before then finish studies SFP
‘He had already graduated before I entered school.’

b. Tā [* (zài) wǒ rǔ xué yǐhòu] cǎi bǐ yè.
     3SG    at 1SG  enter school after only finish studies
‘He only graduated after I had entered school.’

c. Tā [* (zícóng) wǒ rǔ xué yǐlái]
     3SG from 1SG enter school since
jiù méi gēn wo shū-guò huà.
then NEG with 1SG say -EXP word  
‘Since I entered school, he has not spoken to me.’

Against this backdrop, the observation made by Liu Feng-hsi (1981) can now be accounted for rather straightforwardly:

(172) a. [Zhāngsān; zǒu -le yǐhòu] [(*tā) jiù méi huílái-guo]  
    Zhāngsān leave-PERF after 3SG then NEG return-EXP  
    ‘After Zhangsān had left, he didn’t come back.’

b. [MatrixTP Zhāngsān; [vP [PostP [pro; zǒu -le] yǐhòu]  
    Zhāngsān leave-PERF after  
    [vP jiù méi huílái-guo]]]  
    then NEG return-EXP  
    ‘After Zhangsān had left, he didn’t come back.’

c. Yīnwèi Lǐsì hěn máng, suǒyì (tā) bù néng lái kàn nǐ  
   because Lǐsì very busy so 3SG NEG can come see 2SG  
   ‘Because Lǐsì is very busy, therefore he cannot come to see you.’

Liu Feng-hsi (1981) notes the difference above when trying to come to terms with the licensing condition of “zero anaphora”, i.e. co-referential null subjects: she is puzzled by the unacceptability of tā in (172a), in contrast to its optionality in (172c) (also cf. Harlow & Cullen 1992). However, this “puzzle” is due to a simple misparsing, which can sometimes still be found in the literature: instead of realizing that Zhāngsān is the matrix subject controlling a pro within the temporal adjunct PostP (cf. (172b)), Zhāngsān is misanalyzed as the subject of the clause embedded under the PostP (cf. (172a)).

So far, we have examined temporal DPs, PPs and PostPs. Clausal temporal adjuncts are likewise acceptable in the preverbal position below the subject. Note, though, that the same processing difficulties arise in the case of contiguous [+human] matrix clause subject and adverbial clause subject, as is the case in (173b):

(173) a. [TP Tā [Adv.cl. chūntiān dào -le] cái huí lái].  
    3SG spring arrive-PERF only will come  
    ‘He will only come when spring time has arrived.’

b. # [TP Tā [Adv.cl. nǐ dào -le ] cái huí lái].  
    3SG 2SG arrive-PERF only will come  
    ‘He will only come when you have arrived.’

c. [TP Tā [Adv.cl. yǒu kèrén lái] cái huí].  
    3SG have guest come only will

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29 Accordingly, when judged acceptable, a sentence such as (i) must be parsed differently, i.e. with Zhāngsān as matrix topic, and tā as subject of the main clause:

(i) [MatrixTopP Zhāngsān; [TP [PostP [pro; zǒu -le] yǐhòu]] [main.clause tā jiù méi huílái-guo]]]  
    Zhāngsān leave-PERF after 3SG then NEG return-EXP  
    ‘After Zhangsān had left, he didn’t come back.’

In (i), a pause is preferred after Zhāngsān, in contrast to the absence of a pause in the default analysis with Zhāngsān as matrix subject.
Recall from the discussion in section 3.5.3 above that these clauses seem to have a hybrid
temporal-conditional nature.

To complete the overview of the different positions available for temporal adjuncts,
we still need to examine whether temporal adjunct DPs, PPs and PostPs can also occur below
auxiliaries. As illustrated in (174), temporal adjunct PPs (with a DP or PostP complement)
can always occur below auxiliaries, whereas temporal adjunct DPs and PostPs are sometimes
only marginally acceptable here (cf. Djamouri/Paul/Whitman 2013 for detailed discussion of
the distribution of adjunct PostPs):

(174) a. Tā zhī huì [PP ?(zài) [DP wǒ shàng bān
he only will at 1SG attend work
de shíhòu] zuò jiāwù.
SUB time do house.cleaning
‘He can only clean the house when I am at work.’

b. Tā zhī gǎn [DP bù xià xuě de shíhòu] shàng shān.
3SG only dare NEG fall snow SUB time ascend mountain
‘He only dares to go into the mountains when it is not snowing.’

(175) a. Tā zhī huì [PP ?(zài) [PostP [wǒ chū
3SG only will at 1SG go.out
door after do house.cleaning
‘He can only clean the house after I have gone out.’

b. Tāmen zhī huì [PostP [háizi bì yè ] yǐhòu]
3PL only will child finish studies after
qù lǚxíng.
go travel
‘They will only travel after the children have graduated.’

To summarize the somewhat complex case of temporal adjuncts below the matrix subject, let
us leave temporal clauses aside and concentrate on temporal adjuncts in the form of DPs, PPs
and PostPs. The latter show the same distribution as other adjunct XPs, i.e. they are
acceptable not only in pre-subject position, but also following the subject, including the
position below auxiliaries (modulo the somewhat constrained acceptability of temporal
adjunct DPs and PostPs, which become fully acceptable when embedded in a PP). Note,
though, the processing difficulties observed if this results in two contiguous [+human] DPs;
this is the case when the matrix subject is adjacent with either the subject of the relative clause
modifying shíhòu ‘time’ or the subject of the clause embedded in an adjunct PP or PostP.

5.2 Adverbial clauses with SFPs
This section discusses a new phenomenon, so far not taken into account, viz adverbial clauses including SFPs. The relevant examples are provided below with two different parsing possibilities, implementing the adjunction scenario (cf. (176a-b)) and the topic scenario (cf. (177a-b)), respectively.

(176) a. [TP Wǒ [AttP [concessive.cl. jǐshí tā bù lái] [Att° ba]]
   1SG even if 3SG NEG come SFP
   [yě huì yí-gè-rèn qǔ]].
   also will alone go
   ‘Even if he doesn’t come, I’ll go on my own.’

b. [TP Tā [AttP [cond.cl. rúguò xià yǔ] [Att° ne]]
   3SG if fall rain SFP
   [jiù kěndìng bù huì lái]].
   then surely NEG will come
   ‘He will surely not come if it rains.’

In (176a-b), the attitude heads ba and ne take a clausal complement and the resulting AttP in turn is adjoined to a position below T. In other words, adverbial clauses can project a CP with an overt C head realized by SFPs. The sentence-initial DP is the matrix subject located in SpecTP.

By contrast, in the topic scenario, two (recursive) TopPs are required, the first hosting the subject wǒ ‘I’ (either co-indexed with the main clause subject pro or extracted), and the second the concessive clause. It is the presence of ne, analyzed as topic head here, which indicates that wǒ ‘I’ and the concessive clause must both be located in the left periphery. Finally, a pause is required after each TopP:

(177) a. [Top1P Wǒ, [Top2P [concessive.cl. jǐshí tā bù lái] [[Top2° ne]],
   1SG even if 3SG NEG come TOP
   [TP {pro/ wǒ} yě huì yí-gè-rèn qǔ]].
   1SG also will alone go
   ‘Even if he doesn’t come, I’ll go on my own.’

b. [Top1P Tā, [Top2P [cond.cl. rúguó xià yù] [[Top2° ne]],
   3SG if fall rain TOP
   [TP {pro/ tā} jiù kěndìng bù huì lái]].
   3SG then surely NEG will come
   ‘He will surely not come if it rains.’

Importantly, an adverbial clause of the size AttitudeP can in principle also be adjoined below auxiliaries, subject to variation among speakers.

(178) [TP Tā [t° ظ] [vP hui [cause.cl. yīnwèi Lisi bù
   3SG will because Lisi NEG
   lái] [Att° ne]] fēicháng shēng qi]].
   come SFP very produce air
   ‘Because Lisi does not come, he will be very angry.’

30 Note that a special intonation is required here for the sentences (176a-b) to be acceptable. In (176a) for example, the SFP ba must not be pronounced with a falling intonation, but instead with a kind of suspension indicating the continuation of the sentence. In addition, the negation bù ‘not’ must be stressed.
5.3 Interim summary
This section has shown that not all adverbial clause types can be merged in the position below the matrix subject. While conditional and causal clauses as well as temporal adjuncts are acceptable here, this position is excluded for concessive and inferential clauses. In fact, looking beyond this article and incorporating results from Wei & Li (this volume, Part 1, sections 3.2 and 3.3), the acceptability below the matrix subject is one of the main criteria for identifying \textit{central} adverbial clauses in Chinese, as opposed to \textit{peripheral} adverbial clauses (in the sense of Haegeman 2002). For matrix TP-internal adverbial clauses, we observe a further subdivision concerning their (un)acceptability in the position \textit{below} auxiliaries. Causal and conditional clauses are allowed below auxiliaries, whereas the situation is more complex for the distribution of temporal adjuncts, which has been shown to depend on the categorial status (clause, DP, PP or PostP).

When occurring below auxiliaries, adverbial clauses can only be analysed as adjuncts, given that the TP-internal topic position is higher than auxiliaries and negation. Furthermore, clauses are excluded from the sentence-internal TopP in general (cf. Paul 2002, 2005). In other words, two alternative analyses (SpecTopP or adjunction) are available only for adverbial clauses and temporal adjuncts in a post-subject position \textit{above} and negation and auxiliaries.

6. The categorial status of so-called conjunctions and the internal structure of adverbial clauses

6.1 Conjunctions in adverbial clauses: Heads vs. adverbs
6.2 Haegeman’s (2002) dichotomy: central vs peripheral adverbial clauses
6.3 Status of conjunctions in the main clause
6.4 Interim summary

So far, we have indistinctly used \textit{conjunction} as a cover term for the “linking” elements in both adverbial and main clauses. In this section now, we intend to provide a precise categorial analysis of conjunctions and to distinguish between heads, on the one hand, and adverbs, i.e. XPs, on the other. We also briefly discuss Haegeman’s (2002) dichotomy between “central” and “peripheral” adverbial clauses, because it crucially involves argument extraction in the adverbial clause, which in turn is tightly linked to the status of conjunctions.

6.1 Conjunctions in adverbial clauses: Heads vs. adverbs

The potential analysis of conjunctions as adverbs goes back to Chao Yuen Ren (1968: 113, §2.12.6; 790, §8.4). It is based on the observation that positionwise, conjunctions pattern with sentential adverbs, because they can either precede the subject or occur in the canonical adverb position, i.e. below the subject and above the verb.\footnote{This post-subject preverbal position is the unique position available for the so-called correlative” adverbs in the main clause, such as \textit{jiù} ‘then’, \textit{cái} ‘only’, \textit{hái} ‘still’ \textit{yě} ‘also’ etc., a point also highlighted by Chao Yuen Ren (1968: 114)} Interestingly, Chao (1968: 114) points out that the pre- vs. post-subject position of conjunctions depends on whether adverbial clause and main clause have different subjects or not, and he states a preference for a post-subject position of conjunctions in the same-subject case illustrated in (179a) below, contrasting with the different-subjects case in (179b):

(179) a. Wǒ suírán xiāng fā cái,
    1SG although want develop wealth
kěshì bù gàn mào xiǎn.
but NEG dare risk danger
‘I although want to get rich, yet don’t take to dare risks.’

b. Suírān wǒ xiǎng fā cái,
although 1SG want develop wealth
kěshì nǐ bù ràng wǒ.
but 2SG NEG let 1SG
‘I although want to get rich, yet you don’t let me.’

(Chao’s (1968: 114) translations, our transliterations and glosses)

(179a) corresponds to the case discussed in section 4.2. above: ‘DP conj Ø [main cl. Ø…]’, where the analysis of the sentence-initial DP as matrix topic (controlling the null subjects in both the adverbial and the main clause) is the most straightforward one among the different available parsing possibilities:

(180) [MatrixTopP Wǒ [adv.cl. suírān pro xiǎng fā cái]
1SG although want develop wealth
[kěshì pro bù gàn mào xiǎn]]
but NEG dare risk danger
‘I although want to get rich, yet don’t take to dare risks.’

That is the reason why for conjunctions such as rúguǒ ‘if’, suírān ‘although’ etc. we have so far have pursued both possibilities in parallel, viz. complementizer and adverb status:

(181) Zhāngsān rúguǒ è-le
Zhansan if hungry-Perf
tā huì qu mǎi dōngxi de.
3SG will go buy thing DE
‘If Zhansan is hungry he will go buy something.’

This sentence can be accommodated by an analysis of rúguǒ ‘if’ as an adverb occupying the canonical preverbal position below the subject, as shown in (182):

(182) [[TP Zhāngsān [TP Ø] [VP rúguǒ è -le ]]]
Zhansan if hungry-PERF
[Main cl. tā huì qu mǎi dōngxi de]].
3SG will go buy thing DE
‘If Zhansan is hungry he will go buy something.’

By contrast, if rúguǒ ‘if’ is analysed as a complementizer, the grammaticality of (182) above is at first sight unexpected, because the adverbial clause subject Zhansan occupies a position to the left of the complementizer. In other words, Zhansan seems to have been extracted from a position within the adverbial clause, i.e. from a strong island (cf. (183)). However, as already mentioned in section 4.1 above, there exists an alternative acceptable parsing with ruguo ‘if’ as complementizer, as shown in (183b).

32 Recall that in the discussion of temporal adjuncts, we already identified yǐlái ‘since’, yǐqián ‘before’, yǐhòu ‘after’ as postpositions, and zài ‘at’, dāng ‘at’, zícōng ‘from…on’ as prepositions, i.e. all these items are (adpositional) heads (cf. sections 3.5.1 and 3.5.2 above) and therefore not included in the discussion here.
Zhangsan in (183b) has not been extracted, but instead instantiates a base-generated topic binding the null pronoun occupying the subject position of the adverbial clause. Recall that this is possible via the Generalized Control Rule (GCR) proposed by Huang (1984) and adopted in Huang, Li and Li (2009: 209, (49)) which posits that an empty pronoun must be coindexed with the closest nominal. In the case at hand, this ensures that the subject pro in the adverbial clause is bound by Zhangsan.

In order to decide between adverb status vs. complementizer status for rúguǒ ‘if’, we will now examine more closely the extraction possibilities for object DPs in the adverbial clause:

(184) a. Rúguǒ Zhāngsān dà zhè-ge xuéshèng,
if Zhangsan beat this-CL student
Xiaohong jiù hén bùgāoxing.
Xiaohong then will very be.unhappy
‘If Zhangsan beats this student, then Xiaohong will be very unhappy.’

b.* [TopP Zhè-ge xuéshèng [CP [C° rúguǒ] [TP Zhāngsān dà zhè-ge xuéshèng]]]
this-CL student if Zhangsan beat this-CL student
Xiaohong jiù hén bùgāoxing.
Xiaohong then will very be.unhappy
(Intended: ‘This student, if Zhangsan beats (him), Xiaohong will be very unhappy.’)

In (184b), zhè-ge xuéshèng ‘this student’ is the object of the verb dà ‘beat’ inside the adverbial clause. If the understood object of dà ‘beat’ were a pro, then it would not be able to be bound by zhè-ge xuéshèng ‘this student’, since zhè-ge xuéshèng is not the closest nominal. Consequently, zhè-ge xuéshèng in the sentence-initial position must have been extracted as indicated in (184b). This extraction is illicit, because it involves the violation of the island constraint, hence the ungrammaticality of (184b).

Under the analysis of rúguǒ as an adverb, the ungrammaticality of (184b) cannot be explained, for the simple reason that there is no island involved:

(185) # Zhè-ge xuéshèng [TP rúguǒ Zhāngsān dà zhè-ge xuéshèng]
this-CL student if Zhangsan beat this-CL student
Xiaohong jiù hén bù gāoxing.
Xiaohong then will very be.unhappy

Importantly, as mentioned in section 4.1 above, the violation of island constraints is only clearly observable for predicates implying episodic eventualities (cf. Niina Zhang 2002).
Accordingly, if the (episodic) verb ǎ ‘beat’ in (185) is replaced by the (non-episodic) verb xīhuān ‘like’, the acceptability of the sentence is considerably improved:

(186) ? [Topp Zhè-ge xuèshēng [CP [c° rúguo] [TP Zhāngsān bù xīhuān
this-CL student if Zhangsan neg like
zhè-ge xuèshēng]]] [Main cl. Xiǎohóng jiù hên bùgǎoxīng].
this-CL student Xiaoohong then will very be.unhappy
‘This student, if Zhangsan doesn’t like him, Xiaoohong will be very unhappy.’

According to Niina Zhang (2002) who was the first to notice this contrast, sentences such as (186) still involve extraction of zhè ge xuèshēng ‘this student’; why the episodic vs non-episodic nature of the verbs plays a role for extraction here is left open. By contrast, for Y.-H. Audrey Li (2014), cases such as (186) do not involve extraction, but a base-generated true empty category (TEC). A TEC is different from the pro in subject position; while the latter is subject to the Generalized Control Rule (cf. Huang 1982), a TEC takes as its closest c-commanding antecedent a (null) topic or a higher subject. Pan (2017b) likewise assumes that there is no extraction with non-episodic predicates; instead, a pro occupies the “surface” object position without being selected as an internal argument. With episodic predicates, however, a true gap is always left after extraction, which systematically gives rise to island effects. The comparison between a verb of the type ǎ ‘beat’ and a verb of the type xīhuān ‘like’ suggests that in addition to episodicality, the verb should also convey a high degree of “impact” on the patient (for further discussion, cf. Victor Pan 2014, 2016 ch.2).

When the conditional clause is merged below the matrix subject, extraction of an object DP from within the adverbial clause is likewise illicit due to island constraints, irrespective of the landing site assumed, i.e. in the left periphery of the adverbial clause or the matrix sentence:

(187) a. [Matrix-TP Xiǎohóng [adv.cl. rúguō Zhāngsān dǎ -le Lìsī]
Xiaoohong if Zhangsan beat-PERF Lisi
jiù hui hên shēng qì].
then will very produce air
‘If Zhangsan beats Lisi, Xiaoohong will be very angry.’

b. *[Matrix-Topp Lìsī [Matrix-TP Xiǎohóng [adv.cl rúguō Zhāngsān
Līsī Xiaoohong if Zhangsan
dǎ-le Līsī] jiù hui hên shēng qì]].
beat Lisi then will very produce air

c. *[Matrix-TP Xiǎohóng [adv.cl. Līsī [ rúguō Zhāngsān dǎ -le Līsī]]

33 Extraction of the adverbial clause object is likewise excluded for non-episodic predicates here:

(i) [Matrix-TP Xiǎohóng [adv.cl rúguō Zhāngsān bù xīhuān Līsī]
Xiaoohong if Zhangsan neg like Lisi
jiù hui hên shāngxīn.
then will very be.sad
‘If Zhangsan does not like Lisi, Xiaoohong will be very sad.’

(ii) *[Matrix-Topp Līsī [Matrix-TP Xiǎohóng [adv.cl rúguō Zhāngsān
Līsī Xiaoohong if Zhangsan
bù xīhuān Līsī] jiù hui hên shāngxīn.
NEG like Lisi then will very be.sad
The presence of two potential binders for the empty object of the psychological verb xīhuān ‘like’ seems to create a processing problem.
Xiaohong if Zhangsan beat Lisi
jiù huì hěn shēng qì].
then will very produce air
(‘If Zhangsan beats Lisi, Xiaohong will be very angry.’)

In (187b), Lisi is extracted to the matrix topic position, while in (187c), Lisi is extracted to the periphery of the adverbial clause. Irrespective of the landing site for Lisi, the resulting sentence is unacceptable.

Concerning the other conjunctions with still undetermined status (jíshí ‘even if’, jírán ‘given that, since’, suīrán ‘although’, chúfēi ‘only if’, yīnwèi ‘because’ etc.), they all turn out to be complementizers as well. For reason of space, we will only illustrate the unacceptable extraction to matrix topic position as argument in favor of their complementizer status.

(188) a. [adv.cl.CP Jíshí /jiùsuàn Zhāngsān piān Mǎlí],
even.if/even.though Zhangsan cheat Mary
[Matrix-TP dàjiā háishì rènwéi Zhāngsān shì ge hǎo rén].
everyone still think Zhangsan be Cl good person
(‘Even if Zhangsan cheats on Mary, everybody still thinks that Zhangsan is a good person.’)

b. * Mǎlí [adv.cl.CP jíshí /jiùsuàn Zhāngsān piān Mǎlí],
Mary even.if/even.though Zhangsan cheat Mary
[Matrix-TP dàjiā háishì rènwéi Zhāngsān shì ge hǎo rén].
everyone still think Zhangsan be Cl good person
(‘Even if Mary, Zhangsan cheats on her, everybody still thinks that Zhangsan is a good person.’)

c. * Mǎlí [CP suīrán Zhāngsān piān Mǎlí],
Mary although Zhangsan cheat Mary
[Matrix-TP dàjiā háishì rènwéi Zhāngsān shì ge hǎo rén].
everyone still think Zhangsan be Cl good person
(‘Although Mary, Zhangsan cheats on her, everybody still thinks that Zhangsan is a good person.’)

In (188a, b), the illicit extraction is shown for the adverbial clause in sentence-initial position. However, it is not excluded that (188b) is unacceptable because it is difficult to establish a discourse link between the matrix topic Mary and the comment sentence ‘everybody still thinks that Zhangsan is a good person’. Nevertheless, (189c) further below shows that even when such processing difficulties are not given (because Mary does not occupy matrix TopP), the same configuration with the object DP to the left of the C gives rise to ungrammaticality, thus confirming the impossibility of extraction.

The paradigm in (189) uses yīnwèi ‘because’, because the yīnwèi ‘because’ adverbial clause is fully acceptable both in sentence-initial position as well as below the matrix subject. (189a) illustrates the illicit extraction of the object DP Mary from the adverbial yīnwèi clause in sentence-initial position. (189b, c) involves the adverbial clause merged below the matrix subject; extraction of Mary to either matrix TopP or to the periphery of the adverbial clause is likewise illicit. The same holds for object extraction from inferential clauses with jírán ‘since’ (cf. (190)) (modulo the lack of inferential clauses below the matrix subject):
(189) a. *Mǎlì [adv.cl. yǐnwèi Zhāngsān piàn Mǎlì],34
Mary because Zhangsan cheat Mary
[Matrix TP dàjiā dōu rénwèi Zhāngsān shì ge huài rén.]
  everyone all think Zhangsan be Cl bad person
  (‘Because Zhangsan cheats on Mary, everybody thinks that Zhangsan is a bad guy.’)

b. *Mǎlì [Matrix TP dàjiā [adv.cl. yǐnwèi Zhāngsān piàn
Mary everyone because Zhangsan cheat Mǎlì] dōu rénwèi Zhāngsān shì ge huài rén].
Mary all think Zhangsan be Cl bad person
  (‘Because Zhangsan cheats on Mary, everybody thinks that Zhangsan is a bad guy.’)

c. *Dàjiā [Matrix TP Mǎlì [adv.cl. yǐnwèi Zhāngsān piàn
everyone Mary because Zhangsan cheat Mǎlì] dōu rénwèi Zhāngsān shì ge huài rén].
Mary all think Zhangsan be Cl bad person
  (‘Because Zhangsan cheats on Mary, everybody thinks that Zhangsan is a bad guy.’)

(190) a. [adv.cl.CP Jírán Zhāngsān dà-le Lǐsì],
  since Zhangsan beat-PERF Lisi
[Matrix-CP dàjiā jiù bù xiǎng gèn Zhāngsān
  everyone then NEG want with Zhangsan
  zuò pénghyǒu le].
  make friend SFP
  ‘Since Zhangsan hit Lisi, nobody wants to befriend Zhangsan.’

b. *Lǐsì [adv.cl.CP jírán Zhāngsān dà -le Lǐsì],
Lisi since Zhangsan beat-PERF Lisi
[Matrix-CP dàjiā jiù bù xiǎng gèn Zhāngsān
  everyone then NEG want with Zhangsan
  zuò pénghyǒu le].
  make friend SFP

As already mentioned, the analysis of conjunctions as adverbs cannot account for the island
effects observed above. In addition, this adverb analysis would force us to posit a subclass of
adverbs that are excluded from matrix clauses, an undesirable result.35

To summarize the results obtained, the conjunctions occurring in the different types of
adverbial clauses are all heads: (i) complementizers: rúguǒ ‘if’, jíshí ‘even if’, jísuǎn ‘even
though’, jírán ‘since’, suīrán ‘although’, yǐnwèi ‘because’ etc.; (ii) postpositions: yǐlái
‘from…on, since’, yìqián ‘before (temporal), yīhòu ‘after’; (iii) prepositions selecting a DP
or Postp complement: zài ‘at’, dāng ‘at’; zìcóng ‘from (on).’

34 The extraction of the object of a bare episodic predicate such as piàn ‘cheat’, dā ‘hit’, mà ‘scold’, from inside
an island is generally banned. Extraction improves slightly when these predicates are combined with aspect
suffixes such as -guo ‘experiential aspect’:
(i) Mǎlì [adv.cl. yǐnwèi Zhāngsān piàn-guo Mǎlì],34
Mary because Zhangsan chea-EXP Mary
  [Matrix TP dàjiā dōu juèdé tā, hén bēn]
  everyone all think 3SG very stupid
  ‘Mary, because Zhangsan has cheated [on her], everybody thinks she is stupid.’

35 Thanks to Thomas Hun-tak Lee for drawing our attention to this point.
6.2 Haegeman’s (2012) dichotomy: central vs peripheral adverbial clauses

We have seen above that the DP preceding the conjunction (which is now analyzed as a complementizer) either occupies a position in the left-periphery of the matrix clause or in the left-periphery of the adverbial clause. In the latter case, the adverbial clause must project an additional TopP to host the DP and it is now this TopP that represents the domain of the adverbial clause, (cf.191).

(191) [Adv.cl.-TopP Lisi [CP [C° rúguǒ] [TP Zhāngsān bù xīhuān Lisi if] Zhangsan NEG like Lisi], [Main cl. Xiǎohóng jiù huì hěn bù gāoxìng].

Lisi Xiaohong then will very NEG happy
‘Lisi, if Zhangsan doesn’t like him, Xiaohong will be very unhappy.’

So far, we have not discussed the possibility that the direct object Lisi in (191) can also be topicalized to a position to the right of rúguǒ ‘if’. In this case, it must be assumed that complementizers such as rúguǒ ‘if’ can take a TopP as complement, as shown in (192).

(192) [CP [C° Rúguǒ] [Adv.cl.-TopP Lisi [TP Zhāngsān bù xīhuān Lisi if] Zhangsan neg like Lisi], [Main cl. Xiǎohóng jiù huì hěn bù gāoxìng].

Lisi Xiaohong then will very neg happy
‘Lisi, if Zhangsan doesn’t like him, Xiaohong will be very unhappy.’

Recall that the same type of extraction is banned with an episodic eventuality predicate such as mā ‘scold’:

(193) *[CP [C° Rúguǒ] [Adv.cl.-TopP Lisi [TP Zhāngsān mà Lisi]]],
if Lisi Zhangsan scold Lisi
[Main cl. Xiǎohóng jiù huì hěn bù gāoxìng].
Xiaohong then will very neg happy

The case illustrated in (193) reminds us of the extraction test used by Haegemann with regard to the dichotomy central adverbial clauses vs peripheral adverbial clauses. A natural question to ask is whether this dichotomy also exists in Chinese.

Haegeman (2012 and earlier works) establishes a correlation between the internal syntax of adverbial clauses, i.e. the (non) availability of argument fronting, on the one hand, and their degree of “integration” (central vs peripheral) with the main clause, on the other.

(194) a. If [these final exams] you don’t pass, you won’t get the degree.

b. If [his syntactic arguments] we can’t criticize, there is a lot to be said against his semantic analyses. (Haegeman 2002, ex. (17a))

Phenomena such as argument fronting are considered to be typical of main clauses, hence Main Clause Phenomena (MCP). Importantly, MCP are not restricted to main clauses, but also exist in a relatively well-defined subset of adverbial clauses, viz. the “peripheral” adverbial clauses in Haegeman’s work. (192b) illustrates a peripheral adverbial clause (PAC), while (192a) shows a central adverbial clause (CAC).
Lu Peng (2003, 2008: 206ff) is the first attempt to replicate Haegeman’s (2002) test of argument fronting to Chinese in order to distinguish between central and peripheral adverbial clauses; she postulates that adverbial clauses preceding the main clause involve PAC, whereas adverbial clauses merged below the subject of the matrix clause instantiate CAC. Accordingly, object topicalization would be expected to be possible in the former, but not in the latter. As demonstrated in (195) - (196) below, however, this prediction is not borne out by the data:

(195) a. ?[Main cl. Xiǎohóng [Adv.cl.-CP [C° rúguǒ] [Adv.cl.-TopP tā de
Xiaohong if 3SG SUB
nánpénghyù [TP bā bā bù xǐhuān tāde nánpénghyù]],
boy.friend dad NEG like her boy.friend
jiù huí fēicháng nánguò],
then will very sad
‘If her boyfriend, dad doesn’t like, Xiaohong will be very unhappy.’

b. ? [CP [C° Rúguǒ] [Adv.cl.-TopP tā de nánpénghyù
if 3SG SUB boy.friend
[TP bā bā bù xǐhuān tāde nánpénghyù]],
dad NEG like her boy.friend
[Xiǎohóng jiù hui fēicháng nánguò],
Xiaohong then will very sad
‘If her boyfriend dad doesn’t like, Xiaohong will be very unhappy.’

(196) a. ?[Main cl. Xiǎohóng [Adv.cl.-CP [C° jìshǐ] [Adv.cl.-TopP tā de
Xiaohong even.if 3SG SUB
nánpénghyù [TP bā bā bù xǐhuān tāde nánpénghyù]],
boyfriend dad NEG like her boy.friend
yě yào bā tā dāihuí jiā qù],
also will BA 3sg bring home go
‘Xiaohong even if her boyfriend, dad doesn’t like, (she) nevertheless brings him home.’

b. ? [CP [C° Jìshǐ] [Adv.cl.-TopP tāde nánpénghyù
even.if her boy.friend
[TP bā bā bù xǐhuān tāde nánpénghyù]],
dad neg like her boy.friend
[Xiǎohóng yě yào bā tā dāihuí jiā qù],
Xiaohong also will BA 3sg bring home go
‘Xiaohong, even if her boyfriend dad doesn’t like, (she) nevertheless brings him home.’

As far as we can see, there is no sharp difference between TP-external and TP-internal adverbial clauses: both marginally allow for the topicalization of the object, as likewise noted by Wei & Li (this volume, Part 1, section 3.2, 3.4.1.1). By contrast, using other diagnostics than object topicalization, Wei & Li provide extensive evidence in favour of the existence of the dichotomy CAC vs PAC in Chinese as well. In particular, only CACs (i.e. reason and causal clauses) are allowed below the matrix subject, in contrast to PACs (i.e. concessive and inferential clauses), which are banned from this position (also cf. our observations on this distribution in sections 3.3 and 3.4 above). Their result thus partly confirms Lu Peng’s (2003, 2008) initial hypothesis, modulo the necessity of applying different tests.
6.3. Status of conjunctions in the main clause

So far we have not discussed the status of the so-called conjunctions in the main clause. The issue is in principle the same as for conjunctions in the adverbial clause: are they adverbs, i.e. XPs, or heads? The possible tests at our disposal, however, differ somewhat, given that it is the main clause that is examined here.

One possible test that exploits the main clause character is to see whether the main clause on its own (without the preceding adverbial clause) is acceptable; if yes, the conjunctions are to be analyzed as adverbs. With conjunctions qua C, by contrast, the ability to “stand alone” is not expected.

In the case of TP-internal adverbs such as jiù ‘then’, háiši ‘still’ whose adverbial status is beyond doubt (because they are confined to the canonical preverbal adverb position below the subject), a main clause containing them can naturally stand alone.

(197) a. Tā háiši měitiān dōu hē yī píng kēlè.
   3SG still every.day all drink 1 CL Cola
   ‘He still drinks a bottle of coke every day.’

   b. Tā mǎshāng jiù likāi.
   3SG immediately then leave
   ‘He is about to leave.’

If we now apply this “stand alone” test to nàme ‘so, therefore, then’ and suǒyǐ ‘therefore’ (which are present in the main clause following a conditional or a causal clause, respectively), the situation becomes a bit more complex. First, a sentence starting with nàme is wellformed on its own, allowing us to analyze nàme as an adverb confined to the pre-subject position, on a par with so in English.

(198) Nàme wǒmen jiù dōu huí jiā qù.
   so 1PL then all return home go
   ‘So we will all go home.’

A sentence such as (199) beginning with suǒyǐ ‘therefore’, however, is not acceptable on its own, i.e. in the absence of a causal clause, when uttered “out of the blue”. (Recall from section 3.2.1 above that suǒyǐ ‘therefore’ is confined to the pre-subject position.) Accordingly, when suǒyǐ is followed by a particle such as ne which precisely invokes a link with the preceding discourse, the sentence becomes acceptable.

(199) a. ??Suǒyǐ tā kěndīng bù xiāngxīn nǐ.
   therefore 3SG certainly NEG believe 2SG
   ‘Therefore he will certainly not believe you.’

   b. Suǒyǐ ne,  tā kěndīng bù xiāngxīn nǐ.
   therefore TOP/SFP 3SG certainly NEG believe 2SG
   ‘Therefore he will certainly not believe you.’
Irrespective of whether *ne* is analyzed as Top° or as SFP, its compatibility with *suǒyì ‘therefore’ precludes C-status for the latter and points to its adverbial status (cf. section 3.2.1 above for further examples).\(^{36}\)

Let us now extend this test using particles to other main clause conjunctions in sentence-initial position, i.e. to *dànshí ‘but’, kěshì ‘but’, bùguò ‘but, however’ rán’ér ‘nevertheless, however’ in concessives. As already observed for *suǒyì ‘therefore’ in (199), these items are fully acceptable in sentence-initial position when a particle such as *ne* and the associated pause are added, but only marginally acceptable with a simple pause:

(200) a. ?{Dànshí/kěshì}/bùguò/rán’ér}, Mài lì bìng / however Mary at.all

\[bù xīhuān chuān qúnzī.\]

NEG like wear skirt

‘But/However, Mary doesn’t like to wear skirts at all.’

b. {Dànshí/kěshì} ne/ {bùguò/rán’ér} ne,

\[Mài lì bìng bù xīhuān chuān qúnzī.\]

Mary at.all NEG like wear skirt

‘But/However, Mary doesn’t like to wear skirts at all.’

As a result, *dànshí ‘but’, kěshì ‘but’, bùguò ‘but, however’ rán’ér ‘nevertheless, however’ as well as *suǒyì ‘therefore’ can be plausibly analyzed as adverbs (not as Cs), on a par with *nàme ‘so, therefore’ (also compatible with *ne*). More precisely, they belong to the subset of sentential adverbs or adverbial phrases expressing the speaker’s attitude that obligatorily precede the subject, such as *lǎoshi shuō ‘frankly (speaking)’.

(201) Lǎoshi shuō, wǒ (*lǎoshi shuō) méi xiāngdào zhè diǎn\(^{37}\)

\[frankly speak 1SG frankly speak NEG think this point\]

‘Frankly (speaking), I have not thought about that point.’

This subset of adverbs thus contrasts with the majority of sentential adverbs, which are acceptable in both pre- and post-subject position (*xiānrán ‘obviously’, qíshí ‘in fact’ etc.)

\(^{36}\) Lin & Tang (1993: 66) opt for *suǒyì ‘therefore’ as C, based on the data below:

(i) \[Yīnwèi jǐngfēi bù gòu, suǒyì\]  

because outlay NEG enough therefore  
\[wǒ juédìng qūxiāo zhè cì húódòng\]  
1SG decide cancel this CL activity

(ii) \[Yīnwèi jǐngfēi bù gòu, suǒyì\]  

because outlay NEG enough therefore  
\[zhè cì húódòng wǒ juédìng qūxiāo\]  
this CL activity 1SG decide cancel

(iii) *Yīnwèi jǐngfēi bù gòu, [zhè cì húódòng] \  

because outlay NEG enough this CL activity  
\[suǒyì wǒ juédìng qūxiāo\]  
therefore 1SG decide cancel

‘Because the outlay is not enough, I decided to cancel the activity.’

They interpret (iii) as evidence for the C status of *suǒyì* and the impossibility of extracting any XPs to its left. In our view, however, (iii) is unacceptable simply because the adverb *suǒyì ‘therefore’ does not occupy the required sentence-initial position. The compatibility of *suǒyì* with *ne* further invalidates its analysis as C.

\(^{37}\) Lǎoshi shuō ‘frankly speaking’ is acceptable in post-subject position when it is analyzed as the main verb preceded by an adverb: ‘I speak frankly (that) I have not thought about that point.’
Note that a pause - with or without a particle - is completely optional for these adverbs when in sentence-initial position:

To summarize, the so-called conjunctions in the main clause all turn out to be sentential adverbs confined to the pre-subject position. However, they are obligatorily followed by a pause, preferably accompanied by a particle, clearly indicating that they occupy a position in the sentence periphery.

6.4 Interim summary

This section has shown that the so-called conjunctions in the adverbial clauses are not sentential adverbs, but heads: (i) complementizers: rúguò ‘if’, jìshí ‘even if’, jiùsuàn ‘even though’, jìrán ‘since’, suīrán ‘although’, yīnwèi ‘because’ etc.; (ii) postpositions: yīlái ‘from…on, since’, yíqián ‘before (temporal)’, yīhòu ‘after’); (iii) prepositions selecting a DP or Postp complement: zài…(de shíhou) ‘at the time when’; zìcóng….yǐlái ‘from….on, since’. By contrast, the “conjunctions” occupying the sentence-initial position in the main clause are to be analyzed as sentential adverbs confined to the pre-subject position.38

While from a perspective of general linguistics this result might seem trivial, this is the first time that the issue of conjunctions in Chinese has been systematically addressed in an extensive study that covers all types of complex sentences.

7. General conclusion

The reader may have been surprised by the numerous analytical possibilities presented throughout this article. In fact, the multiple parsings for the different types of complex sentences are due to two important characteristics of Chinese grammar: the lack of an overt morphological realization of T and the existence of pro-drop (null subject). As a result, a DP preceding the verb can in principle be analyzed either as subject in SpecTP (cf. (i)) or as a topic in the left periphery above TP controlling a null subject in SpecTP (cf. (ii)).

(i) [TP DP [T’ [T Ø] vP]]
(ii) [TopP DPi [TP proi [T’ [T Ø] vP]]]  

In the presence of conjunctions, this principled positional ambiguity (SpecTP vs SpecTopP) gives rise to even more parsing possibilities.

First, when the conjunction occurs at the left edge of the adverbial clause preceding all adverbial clause internal material (including the subject DP), the parsing (as well as the C status of the conjunction) seems at first sight as clear as in English Because it rains, I will not come. However, different from English, in Chinese even this case was shown not to be structurally unambiguous: the conjunction can either be analyzed as a sentential adverb preceding the DP (in SpecTP or SpecTopP) (cf. (iii-iv)), or as a complementizer (cf. (v-vi)):

38 For conjunctions in the main clause, Chao Yuen Ren(1968: 791) arrives at the opposite conclusion from ours. Since the majority must occur in the sentence-intial position preceding the subject (e.g. dānshi ‘but’, in contrast to kěshí ‘but’ acceptable in both pre- and post-subject position), he does not treat them as adverbs, but as conjunctions.
Second, when the conjunction occurs to the right of an overt DP ‘DP conj….’, we saw that not only do we have the choice between the analysis of this DP as an adverbial clause subject (with the conjunction as adverb, cf. (vii)) or an adverbial clause topic (with the conjunction as C, cf. (viii)), but depending on the presence/absence of an explicit subject in the main clause), there are the additional options with the sentence-initial DP as matrix subject (ix) or as matrix topic (x):

\[(iii) \ [\text{adverb} \ [TP \ DP \ [T' \ [T^0 \ Ø] \ vP]]] \ldots\]
\[(iv) \ [\text{adverb} \ [\text{Top} P \ DPi \ [TP \ pro_i \ [T' \ [T^0 \ Ø] \ vP]]]] \ldots\]
\[(v) \ [\text{CP} \ C^0 \ [TP \ DP \ [T' \ [T^0 \ Ø] \ vP]]] \ldots\]
\[(vi) \ [\text{CP} \ C^0 \ [\text{Top} P \ DPi \ [TP \ pro_i \ [T' \ [T^0 \ Ø] \ vP]]]] \ldots\]

The only reliable test to tease these alternatives apart is object extraction from the adverbial clause (with an episodic predicate). This test is based on the asymmetry observed for the control of a null subject vs that of a null object. Accordingly, if island effects are observed for the extraction of an adverbial clause object to the sentence-initial position, the conjunction must be analyzed as a C-head (cf. (v'-vi')); by contrast, the conjunction can be assigned adverb status in the absence of island effects (cf. (iii'-iv')).

\[(iii') \ [\text{DP} \ [T' \ [T^0 \ Ø] \ adverb \ vP]]] \ldots\]
\[(iv') \ [\text{DP} \ [\text{adverb} \ [\text{Top} P \ DPi \ [TP \ pro_i \ [T' \ [T^0 \ Ø] \ vP]]]]] \ldots\]
\[(v') \ [*\text{DP} \ [\text{CP} \ C^0 \ [TP \ DP \ [T' \ [T^0 \ Ø] \ [vP \ V \ \text{DP}_{\text{adverb}}]]]]] \ldots\]
\[(vi') \ [*\text{DP} \ [\text{CP} \ C^0 \ [\text{Top} P \ DPi \ [TP \ pro_i \ [T' \ [T^0 \ Ø] \ [vP \ V \ \text{DP}_{\text{adverb}}]]]]] \ldots\]

As we have seen, object extraction does indeed give rise to island violations, thus providing evidence for the complementizer status of the conjunctions in adverbial clauses.

Besides the analytical complications due to the characteristics of Chinese grammar, general syntactic theory itself allows two analyses for the structural position of adverbial clauses: either the adverbial clause is adjoined to TP or it is treated as a sentential topic in SpecTopP. Given that there is no principled reason to reject either of these two alternatives, both possibilities need to be maintained.
Works cited


