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1 INTRODUCTION

Students who start studying Mandarin will soon learn that the correct use of words meaning ‘only’, ‘even’, ‘also’ and the like has some puzzling sides to it in their new language. The astonishment caused by these facts originally incited my wish to write this study.

In the course of collecting material that would help me to understand the relevant facts more thoroughly, it turned out that it is not easy to delimit the level of linguistic description that is most important for a proper treatment of the empirical domain. Syntax is certainly relevant, semantics cannot be avoided, and pragmatics puts it all in context. At a later stage I found that even (some notion of) morphology or morphosyntax is an important linguistic domain if we want to get a firmer grip on the problem. Needless to say, this study does not pay equal attention to all relevant areas. While some emphasis is put on the (focus) semantic portion of the problems, the syntax part is clearly least articulate.

In this introduction, I would like to give the reader an impression of what has stirred up my curiosity and where the observed phenomena have their place in linguistic theory. Towards the end of this introduction, I will add a short note on the kind of data that have been used, and I will give an outline of the internal organization of the present study.

1.1 PARALLEL ONLY-WORLDS AND OTHER PROBLEMS

Take an innocent English sentence such as Old Wang only drinks tea. One reading of this sentence says that Old Wang drinks tea, and that there is no other kind of beverage that Old Wang drinks. An equally innocent translation of this sentence into Mandarin is given in (1).

(1) Lǎo Wáng zhī hē chá.
‘Old Wang only drinks tea.’

Judging from (1) alone, English and Chinese are languages with identical grammars and different lexicons, and the Mandarin word for only is zhī 只. The puzzling facts come in if we look at (2).

(2) Lǎo Wáng zhīyǒu chá *(cài) hē.
‘Old Wang drinks only tea.’

In the English translation of (2), only has changed its position, but eve-
rything else has remained the same. In a way, (2) resembles its English translation, because the only-word zhīyǒu immediately precedes the object. But it is easy to see that the Mandarin sentences differ more dramatically from one another than the English translations. Firstly, the object has been preposed in (2). Secondly, a more complex variant of the only-word zhī, namely zhīyǒu, is used. Thirdly, one more word is used in addition to the other words, namely cái. The important facts are that if the only-object is preposed, cái in (2) must be used, and that cái may not be used if the object is not preposed. It is the class of words to which cái belongs that we will be interested in in this study.

The pattern of (1) and (2) recurs with even-words; cf. (3) and (4).

(3) Lǎo Wáng shènzhì hē chá. 
old Wang even drink tea 
‘Old Wang even drinks tea.’

(4) Lǎo Wáng lián chí *(yě/dōu) hē. 
old Wang even tea YE/DOU drink 
‘Old Wang drinks even tea.’

Again, both shènzhì 甚至 and lián 隻 are even-words. But while (3) perfectly resembles its English translation, (4) again involves object preposing and the use of an extra word, viz. yě 也 or dōu 都, and not using yě or dōu would yield an ungrammatical sentence. Just as cái will be our object of study in the only-cases, I want to concentrate on yě and dōu in the even-cases.

Another facet of the problems arising for an analysis that deals with words like cái, dōu and yě as in (2) and (4) becomes obvious if we look at the following sentences.

(5) a. Tiānqì hǎo, wǒ cái qù. 
weather good I CAI go 
‘Only if the weather is good will I go.’

b. Tiānqì hǎo, wǒ jiǔ qù. 
weather good I JIU go 
‘If the weather is good I will go.’

(5a) is another instance of the use of cái, and (5b) introduces the fourth word of the paradigm, namely jiǔ 就. We are dealing with complex conditional sentences in (5), and since the subordination of the first clause under the second one gets lost if cái or jiǔ are dropped, the impression arises that cái and jiǔ are elements with a subordinating function. Note, however, that the only-semantics relevant in the cái-sentence in (2) is also part of the meaning of (5a) and that cái is certainly not a subordinator in (2). For the translation of (5b), it is difficult or even impossible to find an English word which resembles only as in the translation of (5a) in function and which could be said to reflect the distinct property of (5b) as opposed to (5a). For this reason, and because jiǔ is often used in conditional sentences, many researchers have assumed that jiǔ is a main clause conditional marker. But if jiǔ really belongs to the same paradigm as cái (and also dōu and yě) — and this is definitely the case, as we will have many opportunities to see — it is not clear what the common core of only-semantics, even-semantics and conditional semantics should be. It will consequently be one aim of this study to show that the subordinating function of jiǔ (and the other words) is just an apparent one and that its real function is well in line with the function of the other members of the paradigm.

More data that are apt to confuse the language learner or that have figured prominently in the literature on cái, jiǔ, dōu and yě will briefly be presented below.

(6) is a pair of sentences illustrating two time-related uses of cái.

(6) a. Xiǎo Wáng bā-dìǎn cái lái. 
Little Wang 8-CL:o'clock CAI come 
‘Little Wang did not come until eight o'clock.’

b. Xiànzǎi cái bā-dìǎn zhōng. 
now CAI 8-CL:o'clock clock 
‘It is only eight o'clock now.’

Sentence (6a) implies that eight o'clock is somehow late, while the same temporal predicate is felt to be early in (6b). If cái is held responsible for the specific evaluations of the temporal predicates in both cases — and practically all researchers who have dealt with the matter subscribe to this — it is a strange fact that cái should induce opposite evaluations.

The most mysterious fact about jiǔ has already been alluded to: If it has a function, at least this function usually does not have a segmental counterpart in English translations; cf. (7) and (8).

(7) Rúguò tiānqì hǎo, wǒ jiǔ qù. 
if weather good I JIU go 
‘If the weather is good, I will go there.’

(8) Wǒmen zài zhèr jiǔ nèng wán. 
we at here JIU can play 
‘We can play here.’

1 Zhīyǒu is used before nominals and adverb(ial)s, zhī is used left-adjacent to the verbal complex.
The English translations of these sentences contain no words that are plausible candidates for performing jiu’s function in English – whatever it is. Note that this is not a peculiarity of English. At least translations into other common European languages display the same effect of jiu being swallowed along the way.

In the case of dōu and yē, stating the general function will not be the major problem. It will take some effort, though, to say how dōu and/or yē come to be used in all of the following contexts: Even-sentences, sentences involving negative polarity items, no-matter-sentences involving wh-words/indefinite pronominals with free-choice interpretations, and concessive (conditional) sentences. (9) gives one example each.

(9) a. Liàn Lào Wáng dōuyē lái.
   even old Wang DOU/YE come
   ‘Even Old Wang is coming.’

b. Wō tóu yì-dīān dōuyē bù tōng.
   I head 1-CL:bit DOU/YE not hurt
   ‘My head doesn’t hurt the slightest bit/at all.’

c. Wúlān nǐ yào shénme,
   no.matter you want what
   wō dōuyē hū gēi ní mài.
   I dou/ye will for you buy
   ‘No matter what you want, I will buy it for you.’

d. Jìshì guówáng lái, wō dōuyē bù qū.
   even if king come I DOU/YE not go
   ‘Even if the king comes I won’t go.’

Even if it is intuitively plausible that the different phenomena instantiated by these examples somehow belong together, it is not obvious what the link really is. So far I have avoided the term ‘focus’ when talking about the phenomena that we shall be interested in. In a sense to be made explicit, cāi, jìu, dōu and yē interact with foci (or with C-topics/contrastive topics). In the following section I will characterize the notion of focus that I will make use of in this study.

1.2 Focus-background structures

Many linguists use the term ‘focus’ as in the tradition starting with Halliday (1967), Chomsky (1971) and Jackendoff (1972). In this tradition, the focus of an utterance ‘is the part of the sentence that answers the relevant wh-question (implicit or explicit) in the particular context in which the sentence is used’ (Gundel 1999: 295). Thus, Bill in the question-answer sequence in (10) is a focus.

(10) Q: Who called the meeting?
   A: Bill called the meeting.

Bill in (10) is prosodically prominent, and it constitutes that part of (10A) which is not already presupposed by the context, i.e. by the question in (10). When the person answering the question takes his turn, it is already part of the (discourse) background, or the common ground, that someone called a/the meeting. It is reasonable to say that Bill is new information in (10A), and that someone called the meeting is old or given information.

There is a widespread misunderstanding of what ‘new information’ and ‘given information’ should be taken to mean. In the case of (10), John being new information does not mean that the discourse participants have not talked about John before or that one of them does not know John. John is new information inasmuch as he is asserted to be the agent referent of the eventuality encoded by someone called the meeting. Before (10A) has been uttered, someone called the meeting was part of the common ground shared by the speaker and the hearer, but Bill called the meeting was not, without this precluding that Bill has been talked about immediately before. After uttering (10A), both assertions are part of the common ground. In short: ‘Focus’ is a relational notion, and the entity a focus relates to is called its background, or presupposition. I will usually use the term ‘background’. The background is that portion of an utterance that the speaker assumes to be in the common ground prior to the utterance. Formally, the background is often represented by an open proposition with a λ-bound variable in the position of the focus. The background of (10A) may thus be represented as in (11).

(11) λx[x called the meeting]

Since the formalities of focus-background interpretation will not be dealt with in the present study, it suffices to know that a representation as in (11) amounts to saying that a background is a kind of predicate which can be saturated by the focus. If we introduce the focus argument into the formula as in (12a), the predicate may become saturated by way of λ-conversion, and the complete proposition (in its asserted version) in (12b) is the result.

(12) a. λx[x called the meeting], Bill
   b. Bill called the meeting

2 This mode of representation in terms of expressions of the λ-calculus was first used by von Stechow (1981).
I will sometimes make use of representations as in (11) or (12), but this is just done for the reason of having a way of representing focus-background partitions in an unequivocal way. More often, I will make use of natural language paraphrases of open propositions which have indefinite expressions in the position of the focus (cf. Someone called the meeting as opposed to Bill called the meeting above).

One more point concerning backgrounds must be stressed at this early stage of the investigation. If a proposition forms part of the background, this does not necessarily mean that the proposition has been asserted previously; the only requirement is that it has been considered. Turn to (13) to see what this means.

(13)  
A: It's a pity that John didn't call a meeting.
B: True. But in the end Bill called the meeting.

In (13) someone called a meeting is part of the background before B replies to A's statement, and this holds even though A's turn does not imply that any meeting was held at all. This means that backgrounded information need not be asserted information, i.e. information believed to be true by any of the discourse participants.

In most languages, foci must conform to a certain, partially language-specific, prosodic pattern. In English, the main stress of an utterance is a pitch accent the exact phonetic realization of which does not matter here. This accent must be on a syllable which is part of the focus. In (10A), the accented syllable and the focus are co-extensive. This is not always the case, though. In the following answer to (10Q), the focus comprises a lot more than just the intonational peak.

(10A')  
The boy next door called the meeting.

In (10A'), door bears focal stress, but the whole subject the boy next door is the focus. A lot of research has been devoted to describing and predicting the placement of stress within foci (cf., among many others, Selkirk 1984, 1995, Cinque 1993 or Schwarzschild 1999). This discussion is irrelevant to our concern.

I will typically indicate the focus interacting with cái, jiù, dòu or yè by using small caps. In all of these cases the focus comprises a syllable with a focus accent. Words written with small caps are thus not to be confused with words/syllables bearing focal stress. I will not generally indicate other foci that may be present in the Mandarin examples. Sometimes, when focus-background structures are not at issue or when they are unclear, I will not even indicate them in sentences with cái, jiù, dòu or yè.

Apart from the very basic facts as discussed with respect to (10), the two questions what focus-background structures really are and on which level of analysis they should be represented, constitutes a highly controversial issue.

The most general division is probably between those researchers who assume that the focus-background partition ought to be represented on some level of syntax, and those researchers who prefer a more parsimonious syntax and put the load on semantics and pragmatics.

Within the syntax camp, more subtle dividing lines can be drawn. Some researchers assume a special kind of movement, focus movement, which yields the right syntactic structure from which the information structure can be read off. They are opposed by others who argue that the movement of foci is really a kind of quantifier movement, and by yet others who consider the idea of a general movement of foci a dubious idea (Kratzer 1991c, von Stechow 1991). Another question is whether the level on which focus-background structures are read off is the standard syntax-semantics interface level L(logical)F(form) of the generative, mainstream T-model of grammar, or whether a distinct syntactic level for the representation of information structure should be assumed (the latter position is taken by Vallduvi 1992).

The semantics/pragmatics faction will argue that in-situ interpretation of foci is possible. The claim that information structure must be reflected in syntax by way of a mechanism that opposes a focus constituent and a background constituent somewhere in the course of the syntactic derivation of a sentence is rejected. This line of research became popular with Rooth (1985). More recent proponents (of slightly modified theories along Rooth's general line) include Kratzer (1991c) or Büring (1997, to appear). Schwarzschild (1999) heads in the direction of a radically pragmatic account which dispenses completely with syntactically marked foci. Nothing is "read off" the syntactic structure at the syntax-semantics interface in this theory, and the whole calculation of alternatives is left to pragmatic principles that are put to work in a constraint-based fashion.

In ch. 3 we will be dealing quite extensively with facts of obligatory movement, and so one might assume that I should side with the syntax approaches. In fact, I will remain entirely agnostic with regard to the question of what kind of movement we are confronted with in those cases in which certain focusing facts trigger movement. Since I do not

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3 It is a false, albeit widespread, assumption that Mandarin, being a lexical tone language, does not have an accent system the way English does. Mandarin does have pitch accents, although of course they interact with the lexical tones. Stressed syllables in Mandarin have higher or lower extreme values of the basic frequency f0 depending on whether the tone starts in a high or a low underlying tonal component, and they are louder than unstressed syllables.
develop any syntactic arguments in the narrower sense I prefer to remain vague in this respect. However, the main claim of ch. 3, namely that the use of cāi, jiù, dōu and yē is a morphosyntactic phenomenon, precludes the possibility of siding with a radically pragmatic account.

1.3 ALTERNATIVES

Another important ingredient of theories of focus-background structure or information structure is their treatment of alternatives. Reconsider our old example (10), repeated here as (14).

(14) Q: Who called the meeting?
A: BILL called the meeting.

Assume that (14Q) is asked in a situation in which the people who might potentially have called the meeting are Mary, Jack, Peter and Bill, and both discourse participants know this. In this setting, focusing Bill as in (14A) does not just assert that Bill called the meeting, it also states that this assertion is made with respect to the potential calling of the meeting by any of Mary, Jack, Peter or Bill. In cases of simple focusing, nothing is entailed about the truth or falsity of these alternatives. In later chapters, we will not usually be dealing with such simple foci. The kinds of foci treated in this study will invariably imply something about the truth or falsity of (some of) the alternatives.

There are two ways of talking about focus alternatives. One way is to say that in (14A), Mary, Jack and Peter are alternatives to Bill with regard to calling the meeting. The other way is to say that the sentence Bill called the meeting has the following alternatives: Mary called the meeting, Jack called the meeting, and Peter called the meeting. This may not appear to make a big difference, but it becomes important once researchers use the first mode of speaking about alternatives and ignore the relatedness of the alternatives to the background. We will concern ourselves with the consequences of this sloppy talk in the sections on so-called scale reversals. I will usually state all of my pertinent generalizations in terms of alternative sentences or propositions instead of talking about alternative focus values. Occasionally, I will make use of the sloppier way of speaking to avoid clumsy wordings, but the context will always make it clear that sets of alternative sentences or propositions are under discussion.

I will not say anything about the meaning of focus-sensitive expressions such as only or even here. For this discussion, the reader is referred to ch. 4. The only thing we should mention at this early point is that words like only or even always relate to a focus in a specific way. One way of referring to this relation is to speak of association with focus (see Rooth 1985 and the following tradition). Another way of putting it is to say that a focus particle like only or even focuses (on) something/its focus. I will make some effort to show that the relation holding between cāi, jiù, dōu and yē and their foci does not conform to the relation between words like only or even and their foci. For this reason I will say throughout the whole study that cāi, jiù, dōu and yē ‘interact’ with a focus. A more explicit account of what I assume this interaction to be will be presented in section 3.4. Sometimes, I also use terms like ‘cāi-focus’ or ‘jiù-focus’, but this should never be taken to mean anything more specific than ‘focus interacting with cāi/jiù’.

1.4 DATA

Since I am not a native speaker of Mandarin, I had to rely on work with consultants and on available texts from which examples could be taken. When it came to choosing whether attested data or elicited data should be used in the course of an argument, I have tried to stick to the following rule: if the argument requires minimal pairs, elicited data are used; if the argument does not rest on minimal contrasts, I often use attested data. In the second case, the source has invariably been annotated. Sometimes, the attested data are elliptical or too long. In these cases, I have usually added or omitted appropriate words, and the source annotation is preceded by ‘ad.’ (for ‘adapted from’) or ‘cf.’.

1.5 ORGANIZATION OF CHAPTERS/HOW TO USE THIS STUDY

Few readers will want to read this study from cover to cover. I have designed chs 2 through 4 in such a way that selective reading is encouraged. Two organizational axes determine the make-up of these chapters.

The first axis arranges the phenomena to be discussed systematically. In ch. 2, those uses of cāi, jiù, dōu and yē that will concern us in later chapters are presented within the context of all use types of words that
are written with the same characters. This chapter is designed in a way which makes it apt to be used as a reference readers may refer back to from different points of the discussion in later chapters. Apart from the last section, it is not written in a way which facilitates a complete reading. Then, obligatory and ungrammatical uses of ｃａｉ, ｊｉｕ, ｄｏｕ and ｙｅ are discussed from the point of view of contexts with stable information structural designs, but differing relations of dominance or c-command and precedence among the foci and ｃａｉ, ｊｉｕ, ｄｏｕ and ｙｅ (ch. 3). This part of the study presents the data that are needed to make the morphosyntactic claim concerning our subject (section 3.4). The last step is the discussion of the focus quantificational components of meaning that go along with the use of ｃａｉ, ｊｉｕ, ｄｏｕ and ｙｅ, and I will show how the large variety of contexts in which these words occur can be reduced to a single focus quantificational type each (ch. 4). Sections 4.1 through 4.3 are rather self-contained, and each of them may be read without knowing the rest of the study.

The second, orthogonal axis arranges the discussion according to which of the particles is used. Viewed from this angle, the main part of the present study comprises three “monographs” (Since I treat ｄｏｕ and ｙｅ together in chs 3 and 4, four words yield only three “monographs”). The two axes can easily be identified in Table 1.1.

Depending on what individual readers are most interested in, it should be possible to identify the relevant sections quickly. In most cases in which I had to decide for or against redundancy, I have decided in favour of repetitions, simply because stating things only once would obviate a fruitful cursory reading.

<table>
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<tr>
<th>Table 1.1 The make-up of chs 2, 3 and 4</th>
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The sections in Table 1.1 constitute the empirical and descriptive core of the study. However, important generalizations from a higher perspective are presented in the last sections of each chapter, i.e. in sections 2.5, 2.6; 3.4, 3.5 and 4.4. In section 4.5 the peripheral paradigm members ｈａｉ and zai are discussed and integrated into the analysis.

Ch. 5 is a collection of separate discussions concerning sub-classes of the data that are discussed in chs 2 through 4. What these discussions have in common is that they all deal with the interaction of focus quantification with other instances of quantificational phenomena, and we will stumble over syntax-semantics mismatches at several points.

Ch. 6 assembles the main results and conclusions again, and tasks for future research are identified from a wider theoretical and cross-linguistic perspective.
In this chapter I will deal with a classification of the different use types of cāi, jīu, dōu and yē (sections 2.1 through 2.4). This classification is a refined blend of different proposals that have been made in the literature. Especially in the case of the parametric use type further sub-divisions are assumed to prove useful in later chapters. Section 2.5 will deal with the justification for establishing each element in the parametric use as an independent linguistic sign in its own right. This is done because the parametric use type will be the sole concern of the chapters to follow, and the requisite separation from the other use types should be put on a principled basis. Tables comparing the classifications used here and in other studies have been appended in section 2.6 at the end of this chapter to allow the reader a quick overview of the facts.

In all those parts of this chapter which do not deal with the parametric use type of cāi, jīu, dōu or yē, I present a lot of data that will not be made use of in subsequent chapters. It may seem out of place to devote so much space to the enumeration of things just in order to sort them out, but for two reasons I think the other use types must be mentioned in this study. The first reason has to do with the research tradition: many researchers dealing with cāi, jīu, dōu or yē have defended the position that all use types of each element are manifestations of a univocal meaning. Although I do not agree with this position I think it would be misleading for readers who are unfamiliar with this tradition to fully detach my study from this line of research. The second reason has to do with the descriptive stance taken here: I think it better to include a “dictionary” of use types that may, independently of the main claims defended in later chapters, be used for future theory-building than to fully concentrate on the section of data that I need to state my claims.

I adopt Biq’s (1984, 1988) term ‘parametric use’ because I think it is a handy and theoretically innocuous term. Without signalling any categorial or narrow semantic status, it makes reference to the overarching class of foci that may interact with cāi as ‘parameters that are involved in the actuation or restriction of an eventuality’ (Biq 1984). Although I make use of Biq’s term, I apply it to more cases than she does. (For Biq cases in which the focus follows cāi are never parametric; cf. footnote 4.)
As said above, I argue that the parametric use type of each of cái, jiù, dōu and yě is a linguistic sign related to the other use types by homonymy or, perhaps, some broadly defined notion of polysemy. On the other hand, I wish to remain entirely agnostic as regards the relations of meaning holding between the different non-parametric use types of each of the four particles. The modal use type of cái and jiù constitutes, however, an exception to this rule. More on this will be said in section 2.1.2.

The survey of use types in sections 2.1 through 2.4 is followed by a section which justifies the independent treatment of the parametric use. The chapter concludes with an overview of classifications put forward by different authors in section 2.5.

2.1 USE TYPES OF CĀI

2.1.1 The parametric use type of cái

The parametric use type of cái always involves interaction with a focus. The focus never comprises the whole utterance. English translations of sentences with cái will usually contain expressions like only or not ... until. Sub-types of the parametric use type vary with the following parameters:

(i) parametric cái precedes its interacting focus, or parametric cái follows its interacting focus;

(ii) the interacting preceding focus may be a constituent of an embedded clause, or it may be a constituent of the clause in which cái occurs;

(iii) the interacting preceding focus may often be, but it need not be, marked by one of a limited set of special functional elements.

In what follows in this section, examples of each possible sub-type are given. The cases where the focus precedes cái are considered first.

A. Relative position of cái and its interacting focus

Type 1: Parametric cái follows its interacting focus.

(1) Zhīlǐyǒu zhīlǐ wǒmen cái nèng wánr.
only here we CAI can play
'We can play only HERE.'

Type 2: Parametric cái precedes its interacting focus.

(4) Xiǎo Wáng cái mài-le yī-běn shū.
Little Wang CAI buy-ASP 1-CL book
'Little Wang bought ONE book.'

(5) Xiǎo Wáng cái Qǐ-SUí.
Little Wang CAI 7-cl.year.of.age
'Little Wang is only SEVEN YEARS old.'

(6) Lǎo Wáng zài Běijīng cái zhù-le Sān-Nián.
Old Wang at Beijing CAI live-ASP 3-CL:year
'Old Wang lived in Beijing for only THREE YEARS.'

The focused categories in (4) through (6) include a numeral within an indefinite object nominal, a numerically quantified nominal predicate, and an adverbial complement of duration.

B. Modes of integrating the interacting focus structurally

Type 1: The focus is a (constituent of a) subordinate clause.

(7) Yīnwèi Xiǎo Wáng Huí Lǎi, nǐ cái xiǎng qù.
because Little Wang will come you CAI want go
'You only want to go because LITTLE WANG WILL COME.'

(8) Chūfēi Xiǎo Wáng lái, wǒ cái qù.
only if Little Wang come I CAI go
'Only if LITTLE WANG comes I go.'

(9) Xiǎo Wáng chī-le Sān-ge mǎntòu cái bāo.
Little Wang eat-ASP 3-CL steamed.bun CAI full
'Only after Little Wang had eaten THREE steamed buns did he have enough.'

Sentence (2) instantiates Lai’s temporal use.  


4 Alleton’s cái 2/value II; Biq’s limiting use; partially Lai’s restrictive use.
Focus and background marking in Mandarin

Chësii dí yú LIUSHI-gônglI wòmen cài hui bèi fà-kuán.

speed lower than 60-CL:km/h we CAI can PASS fine

"Only if we drive slower than SIXTY km/h will we be fined."

While the whole subordinate clause is focused in (7), only parts of the subordinate clauses are in focus in (8) through (10). Note in passing that in (9) numbers lower than ‘three’ are excluded as being sufficient to make Little Wang feel full; in (10) values higher than ‘sixty (km/h)’ are excluded. This observation will be relevant in section 4.1.4 when cài and its interaction with scales will be discussed.

Type 2: The focus is a constituent of the clause in which cài is used. Examples (1) through (6) may serve to illustrate this type.

C. (Optional) Functional elements preceding the focus
A variety of words are used to mark foci preceding cài. The most common ones are zhlyou ‘only (if)’ and chuífi ‘only if’. In none of the following examples does omitting these words render the sentences ungrammatical (although sentences without those functional elements may be indeterminate with respect to whether they should be taken as conditional, causal or temporal, and although single sentences may require some context to sound natural if the only-word is dropped).

(11) (Zhlyou) ZHEL I wòmen cài néng wàn.

only here we CAI can play

'We can play only HERE.'

(12) (Ynwéi) XIÀO WANG HUI LÀI, nǐ cài xiāng qu.

because Little Wang will come you CAI want go

'You only want to go because LITTLE WANG WILL COME.'

(13) (Chuífi/Zhlyou) XIÀO WANG lì wò cài qù.

only if/only if Little Wang come I CAI go

'Only if LITTLE WANG comes will I go.'

2.1.2 The modal use type of cài

The modal use type is characterized by the semantic bleaching of the auxiliary or stative verb which follows cài. Except for possible sentence-final particles, nothing apart from one of the following five verbs may be used after modal cài (here the basic meaning is given as a first gloss):

keyí ‘can’, xíng ‘be possible/o.k.’, hào ‘be good’, dui ‘be correct’, shí ‘be (right)’.

(14) Nǐ yòng xiànián mǎi cài kěyí yá!
you use cash buy CAI can PRT

=>’You must pay cash to buy it!’

(15) Nǐ yòng xiànián mǎi cài xíng ál

you use cash buy CAI possible PRT

=>’You must pay cash to buy it!’

(16) Nǐ gèn wò shàngliang cài hào.
you with I discuss CAI good

=>’I wish you had discussed with me.’

(17) Nǐ yínggái lài kàn wò cài dui.
you should come see I CAI right

=>’You should really come and see me.’

(18) Nǐ gài cángqú lài cài shí.
you should hide CAI right

=>’(For that purpose) you should hide!’

The sequence ‘cài + auxiliary/stative verb’ is often rendered by an ad­verb(ial) or some embedding verb in English; cf. I wish and really in the English translations in (16) and (17).

So far, this use has not been recognized in the literature as meriting special attention. If it is identified at all, as is the case in Alleton’s (1972) work, it is usually subsumed under the parametric use type. This classification is justified, but for expository reasons the modal use type is introduced independently here. I will pay special attention to the modal sub­type in section 5.2.

2.1.3 The aspectual use type of cài

The aspectual use type of cài signals that the event denoted by the clause in which cài is used happened a minimal time span ago with regard to the utterance time or the reference time. Three examples are given below. In (20) the use of gănggăng ‘just’ shows that the time of utterance is the reference time. In (21) a temporal clause specifies the reference time.

(19) Lào Wâng cài bùn-zóu.

Old Wang CAI move-away

‘Old Wang has just moved away.’

6 Alleton’s cài 3/value I; Biq’s temporal use.
Focus and background marking in Mandarin

Lao Wang just CAI move-away
Old Wang has just moved away.'

Wǒ bān-lái -de shìhou, Lǎo Wǎng cǎi bān-zōu.7
I move-come -when Old Wang CAI move-away
'When I moved here, Old Wang had just moved away.'

2.1.4 The emphatic use type of cāi

The emphatic use type of cāi only occurs in exclamatory sentences. Apart from the independently given emphasis on the whole utterance in exclamatory sentences, three different kinds of emphasis on a lower level of constituency may be distinguished: The attention may (i) be focused on the correct identification of a referent of which some property holds, thereby rejecting a contextually salient assumption to the contrary; or that it holds true of some other referent; the attention may (ii) be focused on the identification of a particularly high degree up to which a gradable property may be ascribed to a certain referent; a proposition considered to be part of the discourse background may (iii) be rejected by way of negation. The use of the sentence-final particle ne is characteristic of sentences with emphatic cāi, but it is not a necessary condition (cf. (25)).

(22) correct identification of a referent of which some property holds:
Wǒ jǐzāo? Nǐ cāi jǐzāo ne!
I choleric you CAI choleric PRT
'(You say) I am choleric? But it' s YOU who is choleric!' (hx: 77)

By way of emphatically identifying the addressee as being choleric in (22), the speaker simultaneously rejects that he is choleric or that the addressee is not choleric. Alleton (1972: 146) considers the possibility of recategorizing such uses of cāi as instances of the parametric use type (her cāi 1/value II).

(23) Identification of a particularly high degree up to which a gradable property may be ascribed to a referent:
Nà-hū diànyǐng cāi huāngdān ne!
that-CL movie CAI ludicrous PRT
≈ 'How ludicrous that movie is!' (hx: 77)

(24) Zhāng Bǐngguì màǐ tāng cǎi mǎi ne ... !
Zhang Bǐngguì sell sweets CAI dexterous PRT
≈ 'How dexterously Zhang Bǐngguì sells his sweets!' (hx: 77)

(23) does not just assert that the relevant movie is ludicrous, it emphasizes that the degree to which it is ludicrous exceeds the degrees of this property that may have been salient before (23) was uttered. In (24), similarly, Zhang Bǐngguì's dexterity is claimed to be of a higher degree than background assumptions would usually allow one to infer.

(25) A proposition considered to be part of the discourse background is rejected:

a. Wǒ cāi bù pà!
I CAI not fear
≈ 'How can you think I might be afraid of that?!!' (hx: 78)

b. Cāi bù ne!
CAI not PRT
≈ 'I tell you: no!' (hx: 78)

The possibly implicit assumption that the speaker is afraid is emphatically rejected by using (25a), and emphatic cāi explicitly marks the negation as a rejection. In (25b) emphatic cāi forms part of a negation, and again it adds a strong flavour of rejection to the exclamatory utterance.

2.2 USE TYPES OF JIŮ 

2.2.1 The parametric use type of jiů

Jiů in its parametric use always interacts with a preceding focus or with a C(ontrastive)-topic in the sense of Büring (1997, to appear).10 This inter-

7 Sentences such as this one are systematically ambiguous. (21) can also be taken to mean 'Laowang did not move away until I moved here'. In this case we would be dealing with parametric cāi as discussed in section 2.1.1.

8 Alleton's cāi 4/value III, Biq's and Lai's emphatic use. Biq's analysis of the emphatic use rests on three examples, Lai (1999) cites a single example. Both researchers aim at subsuming the emphatic use of cāi under an overarching core meaning. In view of the fact that the meaning contributions of emphatic or modal particles like the one discussed here are extremely difficult to pin down, it remains unclear how this could be achieved by basing an analysis on just three examples, or a single example. Alleton (1972: 146f) is the only researcher I know of who bases her analysis on a larger corpus (17 examples).


10 Büring's explication of this notion will be introduced in section 4.2.4. Büring's older (Büring 1997) term S(entence)-topic has been replaced by the more common term
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acting category need not be an overt constituent of the sentence in which parametric jiu occurs. Since the function of parametric jiu (cf. section 4.2) does not seem to be lexically encapsulated in European languages, a wide variety of elements may be said to partially reflect its function in English. Varying with the context, some of these elements are if...then, since...therefore, when, as soon as...immediately, since, already or thus/so. In many English translations of Chinese jiu-sentences no segmental counterpart of parametric jiu may be identified. I will organize my overview of the array of contexts in which parametric jiu is encountered according to the following purely descriptive distinctions:

(i) the interacting information-structural category (focus or C-topic) may be a constituent of an embedded clause, it may be a constituent of the clause in which jiu occurs, or it may be part of the extra-sentential context;
(ii) the relationships among jiu-foci or jiu-C-topics and their backgrounds are mainly conditional, causal or temporal, but other types of relations do occur;
(iii) the readings of jiu-sentences may involve an evaluational component ('as soon as', 'as little as', etc.) or not.

I will first illustrate these major dimensions of variation with pertinent examples before turning to a peculiar construction which deserves special attention.

A. Modes of integrating the interacting focus or C-topic structurally

Type 1: The focus or C-topic is a constituent of a subordinate clause.

(26)  
Rāgūdō [Lāo Li]C-topic lăi, wō jiu Qū.  
if Old Li come I JIU go  
'If [OLD LI]C-topic comes, I will go.'

d. [ 'If Mary asks me, I may stay at home, but ...']  
Rāgūdō [Lāo Li Lāi]C-topic wō jiu Qū:  
if Old Li come I JIU go  
'If [OLD LI COMES]C-topic, I will go.'

(26) assembles different instantiations of type 1: Either the whole subordinate clause may be information-structurally distinguished ((26b) and (26d)), or just part of it ((26a) and (26c)); moreover, the distinguished category in the subordinate clause may be a focus ((26a) and (26b)), or a C(ontрастive)-topic ((26c) and (26d)). If a C-topic occurs, some constituent to the right of jiu is in focus. For reasons to become clear in section 4.2.4, sentences with parametric jiu often contextualize more readily if jiu interacts with a C-topic, instead of a focus. In the remainder of this section I will either present examples with C-topics or with foci that interact with jiu without further commenting on this difference.

Type 2: The focus or C-topic is a constituent of the clause in which jiu is used.

(27) [Míngtiān]C-topic wō jiu Qū Shāng Kē.  
tomorrow I JIU go to class  
'TOMORROW[C-topic] I will go to class.'

(28) Yōuyǔ Ribēn [Shēhuì Jīngjī]C-topic -de diguōzhūyī  
due to Japan society economy -ATTR imperialism  
jiu chānshēng-le Ribēn Zhānzhēng-de diguōzhūyī.  
jiu produce-ASP Japan war-ATTR imperialism  
'From Japan's imperialism in [SOCIETY AND ECONOMY]C-topic, its imperialism in WARFARE follows.' (ad. Alleton 1972: 155)

(29) Wū-ge rèn jiu gū.  
5-CL people JIU enough  
'FIVE people are enough.'

Example (27) has a temporal C-topic which interacts with jiu, while the C-topic in (28) is part of a causal prepositional phrase. In both cases adverbial information is encoded without clausal subordination. In (29) part of a non-referential subject nominal is in focus.
Type 3: Jiū interacts with an extra-sentential or implicit C-topic.¹¹

(30) [Wenling considers having a fortune teller remove an allegedly unlucky mole from her face. Her brother refuses to encourage her.]

Brother: Sas ni, sas ni! Na shi ni zigér-de shiqing!
as you like that be you personal-ATTR matter
'As you like! That's your own business!'

Wenling: Xiāngmíng xiānsheng, wǒ jiū qǐng ni bāng wǒ diān-diāo.
fortune.teller mister I JIU ask you help I cut-off
'Mister Fortune-teller, I'M ASKING YOU TO REMOVE IT FOR ME.' (rp: 22)

In (30) jiū links the content of Wenling’s statement to something uttered by her brother: ‘Since making a decision about having the fortune teller remove my unlucky mole is my own business, I'm making up my mind to ask the fortune teller to perform his little surgery'; that is a possible spell-out of the way Wenling’s utterance links up with the prior discourse, and jiū is a reflex of this relationship.

B. Variation among the constituents that host the foci or C-topics

if Little Wang come I JIU go
'If LITTLE WANG comes, I will GO.'

The sentences in (32) cover a wide range of constituent types in which foci or C-topics interacting with jiū may occur. (32a) and (32b) have conditional subordinate clauses; the first one receives a potential reading, in the second one the reading is counterfactual. (32c) is an example of a causal clause. The prepositional phrase adverbial in (32d) has a purposive interpretation. The examples in (32e-h) are temporal: In (32e) the reference time is indicated by the adverbial (clause); the use of yì as soon as’ in (32f) triggers an interpretation of extreme immediacy; the time adverbial in (32g) divides the past into two complementary stretches of time, the later one of which is characterized by the fact that Old Wang has not mentioned Lao Song anymore; in (32h) a deictic time adverbial in focus expresses that Little Wang’s arrival will happen in the immediate
future. (32i), finally, has a local adverbial in focus. In all of these sentences jiù somehow links the information-structurally distinguished element and the main predication.

C. The presence or absence of evaluational components of meaning

(33) [Context 1: Old Wang always arrives late for work. Sometimes he doesn’t show up until 11 o’clock. Today was different, ... Context 2: Old Wang got up at six, took the bus at 6:30, and ...]

tā qì-diǎn jiù zài bàn-gōng-shì le.

(34) Nǐ yì-čí jiù mài bāi-ái-jīn dà báicài ....
you 1-CL:time jiù buy 100-CL:pound big cabbage

‘On a SINGLE OCCASION you are buying as much as a HUNDRED POUNDS of cabbage, [ ...]?’ (cf. hx: 346)

(33) is a sentence which admits of two different readings. Each of the two preceding contexts triggers one reading. While the second reading does not involve any evaluation as to whether seven o’clock is early or late, the first reading clearly has it that seven o’clock is an early point in time to start working. For the first reading to become possible, some part of the sentence to the right of jiù must be in focus. In (34) a minimal focus amount (‘a single occasion’) corresponds to an extremely large scalar value in focus (‘a hundred pounds’). A non-evaluational reading is difficult to construe.

D. ‘The jiù of twin variables’

(35) a. Tā dì mài shénme jiù mài shénme
(s)he like buy what jiù with buy what
‘She will buy what she wants to buy.’ (cf. hx: 346)

b. Nǐ xiǎng gèn shéi jiàn miàn, jiù gèn shéi jiàn miàn.
you want with whom jiù with meet whom
‘You want to meet who with jiù wants to meet whom.’

c. Tā yī-juǎn jī-ge-duōshāo, jiù nà jī-ge-duōshāo.
(s)he need how,many-CL:how,many jiù takes how,many-CL:how,many
‘(S)he takes as many as (s)he needs.’

d. Wǒmen díng-hǎo-le nǎ-tiān, wǒ jiù nǎ-tiān qù.
we decide-good-ASP which-day I jiù which-day go
‘I’ll go on the day that we have decided upon.’

Sentences characterized by the ‘jiù of twin variables’ have the following properties: The same indefinite pronominal or wh-word (underlined in (35)) must occur twice; one of the occurrences precedes jiù in a subordinate clause, the other one follows jiù as a constituent of the superordinate clause; the subordinate predication restricts the interpretation of the variable, i.e. the wh-word or indefinite pronominal, in the embedding clause. Translational equivalents of the subordinate clauses in English and other European languages are called ‘indirect relative clauses’ (cf. Lehmann 1984) or ‘free relative clauses’. Any Mandarin wh-word/indefinite pronominal may be used in this construction. Sentences as in (35) have sometimes been discussed in the context of so-called donkey anaphora in the semantics literature dealing with the correct interpretation of pronominal expressions (cf. Tsai 1994, Cheng & Huang 1996, Lin 1996: ch. 5 or Chierchia 2000).

2.2.2 The modal use type of jiù

The modal use type of jiù has properties that are parallel to those of cáí’s modal use type (cf. section 2.1.2): Semantic bleaching of the auxiliary or stative verb following jiù; except for sentence-final particles no other elements apart from the five verbs kěyǒu ‘can’, xīng ‘be possible/o.k.’, hào ‘be good’, dà ‘be right’, shì ‘be (right)’ may be used behind jiù; translational equivalents in English and other languages are usually construed slightly differently.

Cf. Alleton (1972: 151). Alleton notices this use type, but she subsumes it under her jiù 1/value B, i.e. my parametric use type. Basically, I think Alleton’s decision is correct, but as with the modal use type of cáí (cf. section 2.1.2), I have decided to present this sub-type separately.
2.2.3 The aspectual use type of jiù

The aspectual use type of jiù signals that the event denoted by the clause in which jiù is used will happen within a minimal time span with regard to the utterance time or the reference time.

(41) Wǒ jiù huí-lái.
    I jiù return-come
    ‘I’ll come back immediately.’

(42) Tā jǐn-lái-de shìhou, Lísì jiù yáo zú-xià le.
    (s)he enter-come-when Lísì jiù want sit-down PRT
    ‘When (s)he came in, Lísì was about to sit down.’ (Biq 1988: 84)

2.2.4 The emphatic use type of jiù

The common denominator of all occurrences of emphatic jiù seems to be a strengthening of the illocutionary force of assertions. This heightened claim of veracity makes utterances with emphatic jiù apt to be used in contexts in which a surprising property is ascribed to a referent or in which the strong assertion is meant to substitute for an explanation. Two

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13 Allleton’s jiù 3/value 1; Biq’s temporal use.
14 Partially Allleton’s jiù 2/value 3, Biq’s and Lai’s emphatic use.
on the other:
(i) focusing jiù is always stressed, whereas parametric jiù, cài, dōu and yē never are;
(ii) the interacting focus of focusing jiù invariably follows jiù, whereas most free interacting with the parametrically used words precede them;
(iii) As illustrated in (45), the whole transitive VP/IP following focusing jiù may be in focus, whereas this is not possible if the focus follows parametric cài.16

Properties (ii) and (iii) are what we expect of a word that is categorially and functionally similar or identical to words like English only. The first property is a bit special, and I have nothing to say about it. The fact that (ii) and (iii) conform so well to what our expectations about focus particles like only are, and the fact that the parametric use of cài, jiù, dōu and yē has so many puzzling sides to it, can be taken as good grounds for generally separating the two from each other. More examples of the focusing use of jiù are given in (46) (note the adnominal position in (46b) and the ad-prepositional-phrase position in (46c), another property that is never encountered with parametric cài, jiù, dōu or yē).

(46) a. Yībǎi gǒngchī jiù pǎo-le SHIÈR-MÌÀO. 100 metre JIU run-ASP 12-second
   'You’ve run the 100 metres in only TWELVE SECONDS.' (hx: 347)
   b. Jīu Nǐ cōngming, jiù Nǐ nénggān, JIU you intelligent JIU you competent
   bié-rén dōu bù jǐ ni. other-people all not equal you
   'ONLY YOU are intelligent, only YOU are competent, nobody else can compare to you.' (hx: 347)
   c. Wǒ qiànmían, jiù lǐ wǒ yǒu Qi-, Bā- BÚ yuǎn, I front JIU from I exist 7-8-CL step away
   zhān-zhe yǐ-qǐn rén. stand-ASP 1-CL group people

16 Biq (1984: 40) claims that foci such as the one in (45) are also possible with parametric cài. I have not been able to confirm this judgement with my consultants. The largest possible focus constituent in (45) is the direct object, cf. (i).

(i) Wǒ cài kàn-jīàn DI-YI-GE rén.
   I CAI see-perceive ORD-1-CL person
   'I only see THE FIRST PERSON, but I DON’T see THE CAR.'

2.2.6 Other use types of jiù

Two more function word uses of what is written with the same character must be distinguished: A subordinating use translating as even if, and a prepositional use meaning concerning, about or on; cf. (47) and (48). More on the subordinating use will be said in section 4.3.5.B.

(47) Ni jiù bù shuō, wǒ yě hui zhídào. you JIU not say I YÉ will know
   'Even if you don’t say it, I will get to know it anyway.' (XHDC: 441)

(48) Shuāngfāng jiù gōngtóng qùnpǐn-de wèntí jǐnxíng-le hútàn. both.sides JIU together concern-ATTR problem hold-ASP talks
   'Both sides had talks with each other about problems of mutual interest.' (XHDC: 441)

2.3 USE TYPES OF DŌU 都17

2.3.1 The parametric use type of dōu 18

Dōu in its parametric use occurs in contexts of large structural diversity. The common denominator of all occurrences is the fact that parametric dōu must be preceded by a focus. This is reminiscent of the case of parametric jiù. I will refrain from giving a rough translation at this point because of the multitude of relevant contexts.

The conspectus in this section is arranged in accordance with the following descriptive distinctions:
(i) the interacting focus may be a constituent of an embedded clause, or it may be a constituent of the clause in which dōu occurs;
(ii) the interacting focus may be, but it need not be, marked by one of a limited set of special functional elements preceding it;
(iii) the interacting focus may be, but it need not be, a negative polarity item;
(iv) the interacting focus may be a negated verb or verb-object compound similar in function to a negative polarity item;
(v) in a distinct kind of sentence, parametric dōu relates back to a wh-word/indefinite pronoun or to a disjunction.


In the sub-sections to follow I will present examples to illustrate each dimension of variation separately.

A. Parametric dōu and foci in subordinate clauses, or dōu and the focus as clausemates

Type 1: The focus is a (constituent of a) subordinate clause.

(49) a. Jishī GUÓWÁNG lái, wǒ dōu bù huì qù.
   even if king come I DOU not will go
   ‘Even if THE KING COMES I won’t go.’

b. Jishī Lào Lì Dài wǒ DÀOQUÁN.
   even if Old Li to I apologize
   ‘Even if Old Li APOLOGIZES TO ME, I won’t forgive him.’

c. Jiù lián wǒ zhū zài BÉIJING-de shíhou.
   even I live at Beijing -when
   ‘Even when I LIVED IN BEIJING (s)he didn’t live together with me.’

In (49a) the whole subordinate clause except for the subordinating particle jishī ‘even if’ is in focus. A possible context would be Will you go if the Prime Minister invites you? – No, even if the king comes I won’t go. (49b) with the predicate in focus would, on the other hand, be appropriate in a context in which more subtle ways of Old Li’s trying to appease the speaker have already been discussed: Inviting me for dinner won’t do, and even if he apologizes to me I won’t forgive him. (49c) is an example in which part of a temporal clause is in focus, while the preceding two subordinate clauses were conditional clauses.

Type 2: The focus is a constituent of the clause in which dōu is used.

(50) a. Lián NÚWÁNG dōu hui lài.
   even queen DOU will come
   ‘Even THE QUEEN will come.’

b. Dìdì lián BÍNGQILÍN dōu bù xiǎng chī.
   younger brother even ice-cream DOU not want eat
   ‘The little brother doesn’t even want to eat ICE-CREAM.’

c. Lǎolí lián XÍNGQIÀN dōu gōngzuò.
   Old Li even Sunday DOU work
   ‘Old Li works even on SUNDAYS.’

In (50a) the subject nominal is in focus, in (50b) the same applies to the preposed object nominal. (50c) and (50d) have time and place words in focus.

B. (Optional) Functional elements preceding the focus

In all of the sentences in A. immediately above, either jishī ‘even if/when’ or lián ‘even’ preceded the focus. Given contexts that are sufficiently rich, all of the examples in A. are also good without jishī ‘even if’ or lián ‘even’. More examples involving such (optional) elements are given in (51). I will gloss all of them as even if, even though a fine-grained analysis would bring to light subtle differences (cf. Eifring 1995: 178).

(51) a. (Nàpà shì) LÀOBĀN wǒ dōu bù xiǎng jiān.
   even if be boss I DOU not like see
   ‘I even don’t want to see THE BOSS.’

b. (Jíshī) DĀ XUÉ dōu bù nèng liù-zhì wǒ.
   even big snow DOU not can stay-stop I
   ‘Even HEAVY SNOW can’t stop me.’

c. (Rénpíng) MÍNG-YÍ GÀO-SHŌU dōu zhibuhāo.
   even famous-doctor master-hand DOU unable to cure
   ‘Even FAMOUS AND HIGHLY SKILLED DOCTORS are unable to cure it.’ (ad. Eifring 1995: 178)

C. Negative polarity items in focus

The sentences in A/B. have lexical open-class elements in focus. Contrary to those, the examples in (52) have negative polarity items in focus.

(52) a. Lào Lì lián YI-JÚ HUÀ dōu shuōbūchālai.
   Old Li even 1-CL : speech can’t even say a WORD.

b. Wǒ yáchi YI-DÁN'R dōu bù tòng.
   I tooth 1-CL : a bit DOU not hurt
   ‘My tooth doesn’t hurt THE SLIGHTEST BIT/AT ALL.’

c. Nǐ méi yǒu shāng chǎn,
   you not have go up boat
   lián chūn-dé YINGZI dōu méi kāndào.
   even boat-ATTR shadow DOU not have see
   ‘You’ve never been aboard, you haven’t even seen THE SHADOW of the/a boat yet.’ (ad. rp: 52)
D. Verbal elements in focus

The examples considered so far never involved the focusing of verbal elements, unless they were constituents of subordinate clauses. Cases in which only verbal elements in dòu-clauses are in focus do occur, though, but in this case verb copying is required, the sentences are invariably negated, and resultative elements are never focused.

(53a)  a. Lào Sòng DONG dòu bu dòng. 
Old Song move DOU not move 
‘Old Song doesn’t even move.’ (ad. Alleton 1972: 80)

(53b)  b. Tā CHÓ QÌ dòu chūbushànglái. 
(she) go.out breath DOU not manage to breathe 
‘He didn’t even manage to BREATHE.’ (ad. Alleton 1972: 66)

(53a) with an intransitive verb in focus is a simple case: The verb in the canonical verbal position behind dòu is a dummy place-holder, whereas the same verb preceding dòu bears focal stress. The sentence in (53b) has a more intricate structure. Here, too, the motion verb chà ‘to go out (in this case, of breath), to breathe’ precedes dòu, and it is followed by an object in the focus position. In the post-dòu position, the same verb is, however, followed by a complex modalizing resultative ending. Semantically, the verbal elements in focus may be characterized as verbal negative polarity items.

E. Parametric dòu relates back to a wh-word/indefinite pronounal, or to a disjunction \(^{19}\)

Type 1: Parametric dòu relates back to a wh-word/indefinite pronounal.

(54)  a. Shí tī dòu zhídào zhè shì Lào Sòng-de shèngyín. who DOU know this be Old Song-ATTR voice 
‘EVERYBODY knows this is the voice of Old Song.’ (ad. Alleton 1972: 66)

b. Tā SHÈN ME dòu ài chī. (s)he what DOU like eat 
(S)he likes to eat ANYTHING.’

c. Lào Zhiāng SHÈN ME SHI HOU dòu yǒu gōngyù. Old Zhang when DOU have time 
‘Old Zhang ALWAYS has time.’

d. Nèi-xiè pixìe, NÉI-SHUA. dòu bù hēshì. that-CL:some shoe which-CL:pair DOU not fit 
‘Among these shoes, there’s NO PAIR WHATSOEVER that fits.’

e. Xiāo sōngshí pá-de hēn kuài. little squirrel climb-CL very fast

As long as the wh-word/indefinite pronounal precedes dòu, any syntactic function may interact with dòu: Subjects in (54a) and (54d), an object in (54b), and adverbials in (54c) and (54e). The markers of universal quantification present in the English translations do not correspond immediately to the use of the wh-words/indefinite pronouns, but rather to the interaction of these elements with parametric dòu and negation (see sections 4.3.3. and 4.3.4).

\(^{19}\) More recent treatments sometimes subsume this use under dòu’s distributive use as presented in section 2.3.2 (Lin 1996). Others deny the necessity to distinguish different use types of dòu altogether (Shyu 1995, Huang 1996). Note that although I have not clarified the theoretical status of all use types that are discussed in this chapter, I claim that setting apart the parametric use type of all the investigated particles is justified and necessary (cf. section 2.5). On this point, see also the discussion in section 4.3.1. It should moreover be noted at this early point that I will distinguish two different subcases of parametric dòu as in (54): Sentences with negative-polarity interpretations, and sentences with free-choice interpretations (cf. sections 4.3.3 and 4.3.4).
Type 2: Parametric  

(55) a. Tā lái bù lái, dōu méi yǒu guānxì.
   (s)he come not come DOU no have relation
   ‘Whether (s)he comes or not doesn’t matter.’ (hx: 163)

b. Kàn bù kàn, wǒ dōu wùsùowēi.
   see not see I DOU not care
   ‘Whether I see it or not, I don’t care.’ (hx: 163)

These type-2 sentences contain question-like disjunctive parts. In (55a) the disjunctive part is a subject, while in (55b) it does not express a core relation of the main predicate wúsùowēi ‘not care’. Since the representation of information-structural facts in these sentences is especially dependent on their analysis, no focus-background structure has been marked in (55).

There are a handful of functional elements that may be used preceding either the wh-word/indefinite pronominal (type 1), or preceding the disjunctive constituent (type 2): wūlìm, búgūăn and rènpìng are probably the most frequent ones, and all of them are translatable as no matter.

(56) Wūlím SHEI dōu lái le.
   no matter who DOU come PRT
   ‘EVERYBODY came.’ (cf. (54a))

(57) Lǎo Zhāng rènpìng SHÉNME SHIHOU dōu yǒu gōngfù.
   Old Zhang no matter when DOU have time
   ‘Old Zhang ALWAYS has time.’ (cf. (54c))

(58) Būgūăn tā lái bù lái, dōu méi yǒu guānxì.
   no matter (s)he come not come DOU not have relation
   ‘Whether (s)he comes or not doesn’t matter.’ (cf. (55a))

2.3.2 The distributive use type of dōu

The distributive use type of dōu is by far the most frequent one. In sentences in which it occurs, distribution over some preceding plural entity in the same clause is expressed, i.e. the predication is true of every atomic subpart of the plural entity with which distributive dōu interacts. Its meaning thus resembles English adverbial all or each. Representative examples include the following:

(59) a. Tāmén dōu mǎi-le yī-bù chéizī.
   they DOU buy-ASP I-CL car
   ‘They all bought a car.’ (Lin 1998: 201)

b. Nà-bèn shū, wǒ dōu kàn-wán-le.
   that-CL book I DOU read-finish-ASP
   ‘I finished reading (all parts of) that book.’ (Lin 1998: 202)

c. Tā zuòtān/néi-jī-tiān dōu zài jiā.
   (s)he yesterday/that-some-day DOU at home
   ‘(S)he was at home all day yesterday/in all those days.’
   (cf. Lin 1998: 212)

The plural subject argument is distributed over by dōu in (59a), i.e. each single person bought a car, and it is not the case that a collective car was purchased. In (59b) the preposed object argument is distributed over. What complicates this case is the fact that although a single book is involved in the action distribution over something must be traceable. Of course, books can be argued to have sub-parts over which it is possible to distribute. In (59c) analogous facts are presented for (temporal) adverbials: The plural adverbial nēi-jī-tiān ‘those couple of days’ is a straightforward case, while for the interaction of zuòtān ‘yesterday’ with dōu to be possible in a distributive sense, distribution over all sub-parts of ‘yesterday’ is required.

2.3.3 The emphatic use type of dōu

Clauses with dōu in its emphatic use always end in the sentence-final particle le, which signals a ‘currently relevant state’ (Li et al. 1982). Dōu-le may often be rendered as already in English. Consider the examples in (60).

(60) a. Māmá dōu LIUSHI-DUO-SUI-de rén le,
   mum DOU 60-odd-CL.year.of.life-ATTR person PRT
   hái ràng tā dài háizi.
   still make she look after child
   ‘Mum is a person of more than SIXTY YEARS already, and you still have her look after the kids!’ (hx: 166)

b. Dōu SHI-DIĀN le, zēnmé hái bù lái?
   DOU 10-CL.o’clock PRT how still not come
   ‘It’s TEN O’CLOCK already, how come he still doesn’t come?’
   (hx: 166)

22 Alleton’s dōu3/value III.

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20 See section 4.3.4 for discussion.
21 Alleton’s dōu1/value 1; Lin’s (1996, 1998) generalized distributivity operator.
... le (60a) is interpreted in such a way that being sixty-something is old if judged against the background of the usual age of people attending children. Likewise, ten o’clock is signalled to be (contextually) late in the case of jiu, differences in meaning and intonation, among other things, have helped to justify the delimitation of two different uses despite the complementarity of their distributions. In the case of cai, on the other hand, pre-cai foci and post-cai foci were both taken to interact with a single use type of cai, viz. the parametric use. This decision was based mainly on the interpretational identity of the two positional variants of the cai-foci under debate. In the present case the facts are less clear-cut: Tempting though it may seem to assimilate the case of dōu’s emphatic use type either to the situation found with cai (subsumption under the parametric use) or the case of jiu (delimitation of a focusing use type different from the parametric use), I see no way to achieve this. If the cai-solution were to be entertained, we should be able to demonstrate that the meaning dōu...le (in (60) contributes to the sentence meanings equals that of dōu in its parametric use. Even if we do not go into the details of semantic analysis put forward in ch. 4, it appears plausible at this early point to say that already, as opposed to even (the most common translational constant in parametric dōu sentences), is a fairly dissimilar notion. Moreover, neither with parametric cai nor with parametric jiu could a strict co-occurrence relation with a specific sentence-final particle be established as we find it in the case of emphatic dōu...le. If assimilating the emphatic use of dōu to parametric cai with following foci leads nowhere, we could perhaps establish a link between emphatic dōu and the focusing use of jiu. In the end, both focusing jiu and emphatic dōu are obligatorily followed by foci. However, this way out is likewise blocked: The characteristic properties of the focusing use of jiu included obligatory stress on jiu. Dōu in its emphatic use must not be stressed, so the phenomenon must be of a different kind.

I will leave it at that since my main concern here is to single out the parametric use among the other uses. This can be done with sufficient certainty, whereas the question of how to categorize dōu...le properly may await a more detailed investigation.

2.4 USE TYPES OF yě

2.4.1 The parametric use type of yě

The distribution of parametric yě overlaps heavily with that of parametric dōu. Therefore, the following survey makes use of the same grid of exposition put to use in section 2.3.1 where parametric dōu was introduced.

(i) the interacting focus may be a constituent of an embedded clause, or it may be a constituent of the clause in which yě occurs;
(ii) the interacting focus may often be, but it need not be, marked by one of a limited set of special functional elements;
(iii) the interacting focus may be, but it need not be, a negative polarity item;
(iv) the interacting focus may be a negated verb or verb-object compound similar in function to a negative polarity item;
(v) in a distinct kind of sentence, parametric yě relates back to a wh-word/indefinite pronomin or to a disjunction.

Once more, these dimensions of variation will be illustrated one by one.

A. Parametric yě and foci in subordinate clauses, or yě and the focus as clause mates

Type 1: The focus is a (constituent of a) subordinate clause.

(61) a. Wǒ ZHĪ ZĀI BÉIJÍNG -de shihou,
       I live at Beijing -when
       tā yě bù gēn wǒ zhī zài yīqi.
(s)he YE not with I live together
       ‘(S)he even didn’t live together with me when I LIVED IN BEIJING.’

b. Nǐ BŪ shuō, wǒ yě zhīdào.
you not say I YE know
       ‘I even know it if you DON’T say it.’ (XHDC: 945)

23 Alleton’s (1972) yě I (value 1).
Focus and background marking in Mandarin

(61a) is a case in which a subordinate temporal clause is in focus, whereas in (61b) only the negation marker is in focus.

Type 2: The focus is a constituent of the clause in which ye is used.

(62) Lian GU6WANG ye hui lai.
   even king YE will come
   ‘Even THE KING will come.’

(63) Lao/lt lian XINGQITIAN ye bù xiuxi.
Old Li even Sunday YE not rest
   ‘Old Li doesn’t even rest on SUNDAYS.’

B. (Optional) Functional elements preceding the focus

The functional elements that may precede ye-foci include the ones that may be used preceding parametric dòu. However, some other elements are restricted to occurring before ye-foci, or at least they strongly favour them. As with the functional elements preceding dòu-foci, they may usually be left out if the context is sufficiently specific. Note that all sentences in (64) and (65) have two readings if lian ‘even’, or the other focus markers are not used: Emphatic stress on the foci will yield the even-readings, otherwise, we get also-readings. In the case of (64a) the latter reading has been added in parentheses, and this kind of reading will be discussed, and its separate treatment justified, in section 0.

(64) a. (Lian) NÜWANG ye hui lai.
   even queen YE will come
   ‘Even THE QUEEN will come.’ (cf. (50a))
   (‘THE QUEEN will come, too.’)

b. Didì (lian) BINGQILIN ye bù xiang chi.
   younger brother even ice-cream YE not want eat
   ‘The little brother doesn’t even want to eat ICE-CREAM.’
   (cf. (50b))

c. Lao/lt (lian) XINGQITIAN ye bù xiuxi.
   Old Li even Sunday YE not rest
   ‘Old Li doesn’t even rest on SUNDAYS.’

(65) a. (Nàpò shì) LÀOBÀN wò ye bù xiàng jiàn.
   even.if be boss I YE not like see
   ‘I even don’t want to see THE BOSS.’

b. (Jià liàn) DÀ XUE ye bù neng lìù-zhù wò.
   even big snow YE not can stay-stop I
   ‘Even HEAVY SNOW cannot stop me.’

c. Nǐ (jiùshì) YUAN rì xǐshēng nǐ-de shijiān,
   you even if willing sacrifice you-ATTR time
   wò ye bù neng jiēshòu.
   I YE not can accept
   ‘Even if you WANT to sacrifice your time, I can’t accept it.’

d. (Jiùrán) MĚI XIA Yǔ, tā ye dàizhe sèn.
   although not.have fall rain (s)he YE take-ASP umbrella
   ‘(S)he took along an umbrella although IT WASN’T RAINING.’
   (hx : 619)

e. (Ji shì) XIÀ Yǔ, tā ye yào duànliàn.
   even if fall rain (s)he YE will work out
   ‘(S)he will work out even if IT’S RAINING.’ (hx : 619)

(65a/b) conform to (51a/b) with parametric dòu; in (65c/d) the use of dòu instead of ye is dispreferred or impossible if jiùshì and suǐrán are used.

C. Negative polarity items in focus

Just like parametric dòu, ye may interact with negative polarity items in focus, i.e. with specialized expressions which, in the particular meaning relevant here, only occur in negated and some other contexts. This is illustrated in (66) (cf. (52)).

(66) a. LÀO LI liàn Yì-JÜ HUA ye shuòbuchúlái.
   Old Li even 1-CL:speechunit speech YE not.be.able.to speak
   ‘Old Li couldn’t even say A WORD.’

b. Wò yèchì YI-DIÀNR ye bù tòng.
   I tooth 1-CL:asp YE not hurt
   ‘My tooth doesn’t hurt THE SLIGHTEST BIT/AT ALL.’

c. Nǐ méi yòu shǎng chūán,
   you not have go up boat
   liàn chūán-de YINGZI ye méi kàndào.
   even boat-ATTR shadow YE not.have see
   ‘You’ve never been aboard, you haven’t even seen THE SHADOW of the boat yet.’ (ad. rp: 52)
Focus and background marking in Mandarin

d. Jiù shēnhiú-de kū,
old society-ATTR hardship
wǒ Yòngyuǎn yě bù hui wǎngjì.
I ever YE not will forget
‘NEVER EVER will I forget the sufferings in the old society.’
(XHDC: 945)
The foci in (66a-c) denote (contextually determined) minimal quantities or entities; the focus in (66d) is interpreted like English ever.

D. Verbal elements in focus
Parametric ye resembles dōu also in this respect: Verbal elements in focus may interact with ye. They occur only in pre-ye position, an unstressed copy of the verb must follow ye, and the predicate must be negated. Semantically, we are dealing with verbal negative polarity items. Examples that are analogous to the ones given for verbal elements interacting with dōu (cf. (53)) are listed under (67).

(67) a. Lǎo Sōng DONG ye bù dòng.
Old Song move YE not move
‘Old Song doesn’t even move.’
b. Tā CHī Qì yě chūbushānglái.
(s)he go.out breath YE not.manage.to.breathe
‘He didn’t even manage to BREATHE.’ (ad. Alleton 1972: 80)
The comments that were made with regard to the examples in (53) carry over to these sentences.

E. Parametric ye relates back to a wh-word/indefinite pronominal, or to a disjunction.24
Type 1: Parametric ye relates back to a wh-word/indefinite pronominal.
(68) a. SHÉI ye bù hui guài nǐ.
who YE not will blame you
‘NO-ONE will blame you.’ (ad. rp: 7)
b. Tā SHÉNME ye bù shuō.
(s)he what YE not say
‘(S)he doesn’t say ANYTHING AT ALL.’ (ad. Alleton 1972: 66)
c. Lǎo Zhāng SHÉNME SHIHOU ye méi yǒu gōngzhū.
Old Zhang when YE not have time
‘Old Zhang NEVER EVER has time.’

24 The last paragraph of footnote 19 also applies to parametric ye.

d. Néi-xiē píxiē, NÉI-SHUÀNG yě bù hēshì.
that-CL.some shoe which-CL.pair YE not fit
‘Among these shoes, there’s NO PAIR AT ALL that fits.’
e. Xiǎo sōngshū pá-de hěn kuài,
little squirrel climb-CSC very fast
yǐshī ZÉNME yě dàibuzhū.
momentarily how YE not.beable.to.catch
‘The little squirrel was climbing very fast, and for the time being there was NO WAY AT ALL to catch it.’ (hx: 620)

(68a) and (68d) illustrate wh-words/indefinite pronouns in subject function that interact with ye, in (68b) the preposed object nominal is in focus. In (68e) and (68e) adverbial expressions arc in focus. There is no direct translational match among the foci of the Mandarin sentences and those of the English translations.

Type 2: Parametric ye relates back to a disjunction.
(69) a. Tā bùguān xià bu xià yǔ ye huí lái.
(s)he no.matte r fall not fall rain YE will come
‘(S)he’ll come no matter whether it rains or not.’
(ad. Eifring 1995: 32)
b. Bùguān chéng yǔ bù chéng,
no.matter succeed and not succeed
ni yě yào géi wǒ-ge huihui.
you YE must give I-CL reply
‘No matter whether you’re successful or not, you must give me a reply.’ (hx: 618)

Parametric ye may, just like parametric dōu, be preceded by question-like disjunctions. The information-structural facts have been neglected in the examples in (69) because they are not evident and will not be discussed until we get to section 4.3.4.

2.4.2 The emphatic use type of ye25
The emphatic use type of ye is usually characterized as having a toning-down force in cases of tactful criticism directed to the addressee; in other cases it expresses resignation, or the fact that the speaker accepts the things the way they are. The first two examples in (70) illustrate the for-

25 Alleton’s ye 3/value III.
mer option, the third and fourth sentences are instances of the latter utterance type. (The relevant token of \( y\) in (70a) has been underlined.)

(70) a. \( \textit{Ye bù néng quan yuàn tà.} \)

\( \text{Ye} \) not can all blame (s)he

\( \text{yàoshì wò \textit{yē} gènzhē \textit{qū yīngxū jiù bù zhìyù zhéyàng le.}} \)

\( \text{if } \text{Ye} \) follow go perhaps \( \text{jiū} \) not get to this way

'But you cannot put all the blame on him/her, if I had come along things might not have come to this point.' (hx: 620)

b. \( \textit{Nǐ yē tài xiǎokàn rén le,} \)

\( \text{you Ye} \) too underestimate person PRT

\( \text{tā kěshì kēbān chū shèn.} \)

(s)he but professionally trained

'In a way your opinion of him/her is too negative, after all (s)he has received professional training.' (hx: 620)

c. \( \textit{Fǎnzhèng \textit{wōmen} \textit{yě méi yōu duōshǎo qián cùn.}} \)

\( \text{anyway we Ye} \) too not have all that much money save

'It's just the way that we don't have all that much money to save anyway.' (rp: 27)

d. \( \textit{Niánji \textit{yē bù xiǎo le.}} \)

\( \text{age Ye} \) not small PRT

'It's simply the way that (s)he's not very young anymore.' (Alleton 1972: 83)

2.4.3 The focusing use type of \( \textit{yē} \)

Just as in the English sentence Peter will also be there, focusing \( \textit{yē} \) may relate to a preceding or a following focus or C-topic. This is reminiscent of parametric \( \textit{cǎi} \), but there are several reasons justifying the differing treatment of \( \textit{yē} \).

First, the use of focusing \( \textit{yē} \) is never obligatory (though its non-use may lead to infelicity), while the use of parametric \( \textit{yē} \) is obligatory in the presence of a preceding focus marker. (In section 3.5 we will have the opportunity to see that actually all occurrences of parametric particles are mandatory.) Second, there is evidence to the effect that focusing \( \textit{yē} \) has all those properties that have been studied in great detail for adverbial uses of \textit{also} or German \textit{auch} (cf. Krifka 1998 or Reis & Rosengren 1997): If \( \textit{yē} \) is stressed, it is always preceded by a C-topic related to it; if it is unstressed, it is always followed by an interacting focus. Parametric \( \textit{yē} \), on the other hand, is always unstressed, and it is always preceded by its interacting focus. Put briefly, focusing \( \textit{yē} \) behaves precisely like other adverbial additive focus particles, while parametric \( \textit{yē} \) behaves differently. Language-internally, the criteria of obligatoriness and lack of accent serve to establish parametric \( \textit{yē} \) as a natural class distinct from focusing \( \textit{yē} \).

Type 1: Focusing \( \textit{yē} \) precedes its interacting focus.

(71) a. \( \textit{Nǐ yīnggāi \textit{cāi-dān qīng-cài},} \)

you should eat-CL:a.bit green-vegetable \( \textit{yē yīnggāi \textit{cāi-dān NÝRŮ.}} \)

\( \text{Ye} \) should eat-CL:a.bit beef

'You should eat some of the green vegetables, and you should also eat a little BEEF.'

b. \( \textit{Mämà \textit{ài wŏmen, yē \textit{PÍPING wŏmen.}} \)

mum love we Ye criticize we

'Mum loves us, and she also CRITICIZES us.' (hx: 617)

c. \( \textit{Máoyì \textit{xì-gānjīng-le, yē \textit{xì-xiāo-le.}} \)

jumper wash-clean-ASP \( \text{Ye} \) wash-small-ASP

'The jumper got clean as a result of washing it, and it also got SMALLER.' (hx: 617)

d. \( \textit{Tā \ textit{chōu yān, yē \textit{HÉ JIŮ.}} \)

\( \text{(s)he} \) draw smoke \( \text{Ye} \) drink alcohol

'(S)he smokes, and (s)he DRINKS, too.'

A diverse collection of elements following \( \textit{yē} \) may be in focus: The direct object as in (71a), the verb as in (71b), the resultative verbal element as in (71c), or the whole VP as in (71d) illustrate this variety.

Type 2: Focusing \( \textit{yē} \) follows its interacting C-topic; \( \textit{yē} \) is stressed.

(72) a. \( \textit{Tā zuòtiān qū \textit{kàn yā le,} \)

\( \text{(s)he yesterday} \) go see tooth PRT

\( \text{[HÔ]_C-topic zuòtiān \textit{yē qù kàn yā le.}} \)

\( \text{I yesterday} \) \( \text{Ye} \) go see tooth PRT

'(S)he went to the dentist yesterday, and [I]_C-topic also went to the dentist yesterday.' (hx: 616)

b. \( \textit{Tā \textit{jiàntiān bù zài, \textit{[MÍNGTIĀN]C-topic yē \textit{bù zài.}} \)

\( \text{(s)he today} \) not be here tomorrow \( \text{Ye} \) not be here

'(S)he's not here today, and she will not be here [TOMORROW]_C-topic, either.' (hx: 617)
In (72a) the subject is the C-topic, in (72b) the time adverbial fulfills the same function.

2.4.4 Other use types of ye
Besides the use types introduced in sections 2.4.1 and 2.4.2, there are clause-final uses of ye that are clearly unrelated to the former ones. Ye in this position is usually literary and archaic (cf. (73)), but it also appears to occur in the spoken language (cf. (74)).

(73) Chen Sheng zhe, Yangcheng-rén ye.  
Chen Sheng PRT Yangcheng-person YE 'Chen Sheng is from Yangcheng.' (XHDC: 945)

(74) Hēqi dū ye!  
how malicious YE 'How mean!' (XHDC: 945)

2.5 Parametric cāi, jiū, dōu and ye as independent linguistic signs
In general, the 'one form - one meaning postulate' of structural linguistics can be shown to be a persistent guideline for large portions of the research devoted to the present object of study (e.g. Paris 1981, Biq 1984, 1988, or Lai 1995, 1996, 1999, less so Alleton 1972). That is to say, Paris, Biq and Lai regard all use types of cāi and jiū - their studies do not investigate other elements - as ultimately related to a single core meaning (a 'Gesamtbedeutung' in the sense of Jakobson 1936). This leaves no room for homonymy, and vagueness and polysemy have the field all to themselves. I think this position cannot be maintained. Instead I want to defend the opinion that the parametric uses of each of the elements under scrutiny must be recognized as synchronically independent linguistic signs. Since later chapters will not deal with the other use types - except for the modal one which is really a sub-type of the parametric use type - , I will not make any effort to show the same for the other use types.

It is decidedly more difficult to discuss matters of homonymy, polysemy, vagueness and ambiguity in the realm of function words than it is when dealing with content words, since standard diagnostics of these relations often do not apply straightforwardly. What is more, there is so much disagreement about the theoretical status of the aforementioned relationships among linguistic items which have the same signifiant that any discussion of these relationships will be subject to criticisms specific to different traditions of linguistic research. Therefore, I want to follow a somewhat unorthodox way of argumentation to establish the linguistic sign status of parametrically used cāi, jiū, dōu and ye.

My line of argumentation rests on two concepts: Obligatoriness and paradigmaticity. These notions play an important role in those branches of grammaticalization theory that are, in one way or another, derivative of or compatible with Lehmann's seminal paper (Lehmann 1982 [1995]).

Obligatoriness, or transparadigmatic variability, is that paradigmatic parameter of grammaticalization which captures the degree of freedom with which speakers of a language may choose to express a certain category, with the term 'category' taken here to comprise a whole grammatical dimension which is expressed by a paradigm of linguistic signs. Thus, to take a standard example, while aspect is not an obligatory category in German, it is highly grammaticalized in Russian and other Slavonic languages.

Paradigmaticity or paradigmatic cohesion is the degree to which a paradigm forms a coherent formal and semantic unit. A paradigm of small size with members that are maximally similar in formal behaviour and maximally systematic and exhaustive with respect to their function is highly grammaticalized.

Now, what does all of this have to do with justifying the independent status and treatment of the parametric use type as opposed to the other use types? If we assume that grammaticalization yields linguistic signs of some kind, and if we can show that the parametric use type constitutes a sub-system of Mandarin grammar with grammaticalization properties that are different from those of the other use types, we have also shown that parametric cāi, jiū, dōu and ye are linguistic signs which can and should be treated independently in a synchronic grammar of Mandarin. In the rest of this section I want to show that this is in fact the case.

A. Obligatoriness:
In the parametric use cāi, jiū, dōu and ye must, in the presence of preceding focus markers, be used to preserve grammaticality, while this is not the case with the other use types.27

27 In section 3.5 I will argue that in fact all occurrences of parametric particles are obligatory. The above generalization is not true of the distributive use of dōu (cf. 8). In many cases distributive dōu is necessary to ensure grammaticality (cf. Lin 1996, 1998, Zhang 1997). Admittedly, this makes the argument less striking, but this state of affairs does not constitute counter-evidence: Parametric dōu and distributive dōu are just two elements that have been grammaticalized independently. See section 4.3.1, Sybesma (1996) and Zhang (1997: 261ff) for irrefutable arguments to set apart parametric dōu from distributive dōu.
Parametric use

(75) Zhìyǒu xīnqǐ.qián Lǎo Wáng *(cài) gōngzuò. 
only Sunday Old Wang CAI work  
'Old Wang works only on SUNDAYS.'

(76) Zhìyuǎo nǐ lái, wǒ *(jǐu) hui qù. 
if you come I JIU will go  
'If you come I will go.'

(77) Líán xiǎo wàng *(dōu) yào lái. 
even Little Wang DOU want come  
'Even Little Wang wants to come.'

(78) Tā jìshì xù * *(yè) hui lái. 
(s)he even.if fall rain YE will come  
'(S)he will come even if it rains.' (Eifring 1995: 32)

In all of the above examples, dropping cài, jǐu, dōu or yè, respectively, renders the sentences ungrammatical. Such a situation does not arise with the other use types. The examples in (79) through (83) illustrate this.

Aspetual use

(79) Lǎo Wáng (cài/jǐu) lái. 
Old Wang CAI/JIU come  
'Old Wang has (only just) come/will come (immediately).'

Emphatic use

(80) Wǒ *(cài/jǐu) bù pà! 
I CAI/JIU not fear  
'How can you think I might be afraid of that?!'  
'I'm simply not afraid of that!'

(81) Míngtiān zhē-huìr wǒ *(dōu) zài Shànghǎi. 
tomorrow this-CL:moment I DOU at Shanghai PRT  
'Tomorrow by this time, I'll (already) be in Shanghai.' (hx: 166)

(82) Niánji *(yè) bù xiǎo le. 
age YE not small PRT  
'It's simply the way that (s)he's not very young anymore.'

Focusing use

(83) Lǎo Sōng *(jǐu) kān-wán-le dì-yī-zhǎng le. 
Old Song JIU read-finish-ASP ORD-1-CL:chapter PRT  
'Old Song has (only) read the first chapter so far.'

B. Paradigmaticity

Parametric cài, jǐu, dōu and yè constitute the maximally systematic core of a semantically coherent paradigm:

(i) parametric cài: marker indicating negated existential quantification over alternatives
(ii) parametric jǐu: marker indicating negated universal quantification over alternatives
(iii) parametric dōu: marker indicating universal quantification over alternatives
(iv) parametric yè: marker indicating existential quantification over alternatives.

The quantificational types that form part of the above characterizations are the four classical logically possible types that may be derived from the interaction of inner and outer negation with either existential or universal quantification; in our case quantification ranges over domains of alternatives. All of this is discussed and justified in great detail in ch. 4.28

2.6 OVERVIEW OF CLASSIFICATIONS

The following tables are to a large extent self-explanatory. They contrast the division of the relevant empirical domain as I have chosen to present it with the classifications of other major proposals. The similarity of my choices with those of Alleton (1972) and Biq (1984, 1988) is obvious. Lai’s (1999) classifications are in sharp contrast to Alleton’s, Biq’s or my way of sub-dividing the empirical domain.

Table 2.1 Cài’s different use types in this and in other studies

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<th>Alleton</th>
<th>Biq</th>
<th>Lai</th>
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<td>cài</td>
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focus precedes cài  

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'refutation'  

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<td>value III cài 4</td>
<td>emphatic</td>
<td>cài 4</td>
<td>emphatic</td>
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</table>

28 The justification of this point would presuppose large portions of the discussions in later chapters. For this reason, I shall only give an informal list of properties here that should give the reader an idea of the general nature of the system. Note that the necessity to refer to the results of later chapters to justify the delimitation of my object of study is not a methodological problem, but rather arises from problems of exposition.
In this chapter I investigate the conditions that render the use of parametric cāi, jiū, dōu and yē obligatory or impossible as long as we keep the semantic nature of the foci involved constant and appropriate. (See ch. 4 for discussion of the relevant focus-semantic aspects.) By and large, we will be dealing with facts of relative position and movement. The relative position of cāi, jiū, dōu and yē with regard to interacting foci is important because it is, with only few exceptions in cāi-sentences, impossible for a focus interacting with a parametric word to follow that word. Movement of canonically post-verbal elements may ensure the required relative position of foci and parametric words in single cases, and therefore, some movement facts are discussed.

The broad perspective of this chapter may leave the theoretical linguist frustrated at some points, because it is impossible not to cut down on theoretical explicitness and explanatory strength if one wants to mention all the relevant phenomena in a study of this limited size. From another perspective the design of this chapter is, however, fully justified: The endeavour to state factors which trigger or obstruct the use of parametric words has uncovered quite a few descriptive generalizations that seem to have gone unnoticed so far. I think this is a desirable result in itself.

While I devote separate sections to cāi and jiū, I treat dōu and yē in a single section. This is useful because in the case of dōu and yē the relevant generalizations overlap to a considerable degree, and the differences can best be appreciated if the distributions of both elements are discussed side by side.

Section 3.4 constitutes the theoretical harvest that may be gathered from the descriptive generalizations stated in sections 3.1 through 3.3. In that section I will discuss which category parametric cāi, jiū, dōu and yē should be assigned to, and what constitutes the general function of these words. The claim will be that cāi, jiū, dōu and yē are particles with a grammatical function: They mark an agreement relation among specific information-structural categories and backgrounds.
The insights of the present chapter will, in section 3.5, allow us state more clearly than in ch. 2 that foci following cāi and foci following yě are not to be treated on a par. Foci interacting with and following cāi interact with parametric cāi, while foci following yě interact with focusing yě.

3.1 TRIGGERS AND CONSTRAINTS: PARAMETRIC CĀI

3.1.1 Where parametric cāi must be used

In order to see what configurations make the use of cāi necessary, let us first review some relevant cases in which cāi must be used, and then turn to some cases where it need not be used.

   ‘Old Wang has bought only THIS kind of book before.’

b. Zhē-yōu zāi zhē-ge dífang wǒ men *(cāi) nēng wánr. only at this-CL place we CAI can play
   ‘We can have fun only at THIS place.’

c. Chúfēi nǐ lái, wǒ *(cāi) qù. only if you come I CAI go
   ‘Only if YOU COME will I go.’

In (1a) part of the object is overtly marked as an only-focus, i.e. the proposition expressed by the sentence is not true of any kind of book which may not be subsumed under the class zhē-zhōng shū ‘this kind of book’. (1b) and (1c) have (parts of) adverbials in focus, a locative phrase in (1b), and a conditional clause in (1c). In all of these cases it is ungrammatical not to use cāi. Now consider the examples in (2).

   ‘Old Wang has bought (only) THIS kind of book before.’

b. Zāi zhē-ge dífang wǒ men (cāi) nēng wánr. at this-CL place we CAI can play
   ‘We can have fun (only) at THIS place.’

c. Nǐ lái, wǒ (cāi) qù. you come I CAI go
   ‘(Only if YOU COME will I go)/You come, I go.’

These examples are identical to the ones in (1), except that zhē-yōu ‘only’ and chúfēi ‘only if’ have been dropped. If cāi is used, each sentence is interpreted as if the dropped element were there, if cāi is not used, simple focusing is expressed. (2c) is slightly different; in this case dropping cāi leaves the first clause unembedded, thereby yielding a paratactic structure open to a large variety of readings.) Comparing (1) and (2) we might want to state the generalization that cāi is obligatory in all those cases in which a focus that is overtly marked as an only-focus occurs in a clause.

For two reasons, this is not the whole story. The first reason concerns the overt marking of only-foci. Another way of generalizing over the data in (1) and (2) is to say that in each case in which the reading of a focus is restricted to an only-reading the use of cāi is obligatory. (1) and (2) just instantiate two different ways of restricting focus readings: In (1) the foci are lexically marked by a focus operator; in those versions of (2) in which cāi is used the foci are restricted contextually.² According to this view, cāi in (2) is, in those cases in which it is used, just as obligatory as in (1). This seems to me to be a better generalization, simply because it allows us to treat cāi alike in both sets of examples.

The second reason why our first generalization is not quite exact is illustrated by the examples in (3).

(3) a. Zhē-jìliàn dāyí (cāi/zhī) yàò wūshī-kúài qiān. this-CL coat CAI/only cost 50-CL:MU money
   ‘This coat is (only) FIFTY KUAI.’

   ‘Old Wang lived in Beijing for (only) A YEAR.’

In these cases we are dealing with a direct object of a stative verb and with a duration complement (parts of which are) in focus. Here, the use of cāi is not only “optional” the way it was in (2); moreover, cāi may just as well be replaced by zhī ‘only’, an option that is not given in (1) or (2). What, then, is the difference between the first two sets of sentences on the one hand, and the last set on the other? It is relative position that matters: Whenever an only-focus precedes the verb, cāi must be used. If the only-focus follows the verb, or if the verb itself is in focus, zhī ‘only’ may be used. (We will see later that the facts concerning cāi with postverbal foci are actually more intricate than that.) We may thus state the generalization in (4).

(4) Obligatory cāi:

Parametric cāi is used if an only-focus precedes the structural position of cāi.

² Some readers might, alternatively, like to assume phonetically empty focus operators in those versions of (2) in which cāi is used.
(4) makes reference to cái’s structural position instead of referring to the position of the focus wrt. the verb. This is done because an immediately preverbal position need not always be a pre-cái position, cf. (5).

(5) Zhiyou XINGQIULAN w6 cai gen pengyoumén jiān miàn.
only Sunday I CAI with friends see face
‘I meet my friends only on Sundays.’

Shyu (1995) has identified the position of parametric dòu with a head position immediately above the Asp/M-phrase, i.e. an aspect phrase, a non-epistemic modal phrase, or a negation marker, and I will apply this analysis to the case of parametric cái (I will return to Shyu’s account in section 3.1.2.1). In less theory-dependent terms we might say that cái is the leftmost element within the larger verbal complex of a clause.

(4) will correctly cover practically all occurrences of preverbal only-foci. However, there is a marginal class of examples challenging (4). Examples of this kind involve subject-foci and certain adverbial foci in a position immediately preceding the structural position of cái. In these cases the use of cái is optional even if the foci are overtly marked by zhiyou ‘only’.

(6) a. Lào Wáng zhiyou XINGQIULAN (cái) gōngzuò.
Old Wang only Sunday CAI work
‘Old Wang works only on Sundays.’

b. Zhiyou TĀ (cái) nèng bāngzhù wò.
only (s)he CAI can help I
‘Only (s)he CAI can help me.’ (hx: 755)

Such examples are challenging because in all the examples we have considered so far, the overt marking of an only-focus in positions preceding cái coincided with the obligatory use of cái, and from a statistical point of view, these cases by far outnumber examples as in (6). In theoretical linguistics, Zhang (1997) was the first one to notice the optionality of cái in configurations like (6a), but neither she nor anybody else among the syntacticians who have dealt with cái seems to have proposed a solution to this problem. I will leave (4) as it is, but the reader should keep in mind that it cannot cover the optional use of cái in (6).

3.1.2 Factors constraining the use of parametric cái

The use of cái may be constrained by

(i) movement facts concerning different types of nominals with a canonically post-verbal position;

(ii) interaction with quantifiers.

To get a first impression of the grammaticality patterns relevant in this section, examples of each type of acceptability failure, and good contrasting sentences, are given in (7) and (8).

(7) a. Lào Wáng (*cái) māi-le ZHÈ-běn shū.
Old Wang *CAI buy-ASP this-CL book
intended: ‘Old Wang has bought only THIS book.’

b. Lào Wáng ZHÈ-běn shū cái māi-le.
Old Wang this-CL book CAI buy-ASP
‘Old Wang has bought only THIS book.’

c. Lào Wáng cái māi-le SĀN-BĒN SHUO.
Old Wang CAI buy-ASP 3-CL book
‘Old Wang has bought only THREE BOOKS.’

(8) a. Wò (*cái) nèng hé YI-BEI jiǔ.
I *CAI can drink 1-CL:CUP wine
intended: ‘I can (only) drink ONE GLASS of wine.’

b. *Mèi-ge rèn chūfèi Nǐ LÀI dòu cái qu.
every-CL person only if you come each CAI go
intended: ‘Everybody only goes if YOU COME.’

In (7a) a post-verbal direct object with a demonstrative in focus does not allow the use of cái. The same nominal in a pre-verbal position is good in (7b). It is likewise grammatical to have an indefinite nominal focus in post-verbal position as in (7c). The use of the modal verb in (8a), and the wrong relative position of the cái-focus relative to the marker of distributive quantification in (8b) render the last two examples ungrammatical. Let us now look at the constraining factors in more detail.

A. Movement of nominals and (un)grammatical cái

The discussion of the first constraining factor is often submerged under the heading ‘object shift’ (cf. e.g. Zhang N. 2000). What we are dealing with is the fact that movement is often obligatory in the presence of cái. It affects nominals whose canonical position is post-verbal. At the same time the interpretation of the nominals must not be too indefinite (in the sense of the definiteness hierarchy [Silverstein 1976, Croft 1990]) or too deficient (in the sense of Ross 1995) to move to a position in front of the verb and cái. The relevant data are as follows:

(i) Proper names, pro-forms, definite descriptions and bare nouns in habitual sentences must move from a post-verbal base position to the left of cái if they constitute the focus with which cái interacts, or if the focus
with which cài interacts forms part of them. This is illustrated in (9) for the first three categories.

(9) a. Lǎo Wáng (zhìyǒu) MÉIGUÓ/NÁR/NÉI-GE DÍFÁNG
   Old Wang only USA/there/that-CL place
   cài xiǎng qù.
   CAI want go
   ‘Old Wang only wants to go TO THE USA/THROUGH/TO THAT PLACE.’

b. *Lǎo Wáng cài xiǎng qù MÉIGUÓ/NÁR/NÉI-GE DÍFÁNG.
   Old Wang CAI want go USA/there/that-CL place
   intended: ‘Old Wang only wants to go TO THE USA/THROUGH/TO THAT PLACE.’

Note that if cài is not used, object shift is optional, i.e. not syntacticized in a way which would leave the speaker no choice.

(10) a. Lǎo Wáng MÉIGUÓ/NÁR/NÉI-GE DÍFÁNG xiǎng qù.
   Old Wang USA/there/that-CL place want go
   ‘Old Wang wants to go TO THE USA/THROUGH/TO THAT PLACE.’

b. Lǎo Wáng xiǎng qù MÉIGUÓ/NÁR/NÉI-GE DÍFÁNG.
   Old Wang want go USA/there/that-CL place
   ‘Old Wang wants to go TO THE USA/THROUGH/TO THAT PLACE.’

Bare nouns with a post-verbal base position in habitual sentences behave alike. This contrasts sharply with the respective facts for bare nouns in episodic sentences; compare (11) and (12).³

(11) a. *Lǎo Lǐ cài mǎi FÁNGZI.
   Old Li CAI buy house
   intended: ‘Old Li bought only HOUSES (habitually).’

b. Lǎo Lǐ (zhìyǒu) FÁNGZI cài mǎi.
   Old Li only house CAI buy
   ‘Old Li buys only HOUSES (habitually).’

(12) a. Lǎo Lǐ cài mǎi-le FÁNGZI.
   Old Li CAI buy-ASP house
   ‘Old Li bought only A HOUSE.’

b. *Lǎo Lǐ (zhìyǒu) FÁNGZI cài mǎi-le.
   Old Li only house CAI buy-ASP
   intended: ‘Old Li bought only A HOUSE.’

Although the focused object nominal does not differ overtly with respect to their syntactic structure in (11) and (12), the movement facts co-vary with the different sentence readings: Bare nouns in habitual sentences pattern with proper names, pronouns and definite descriptions; bare object nouns in episodic sentences pattern with the class of nominals to which we now turn.

(ii) Bare object nouns in episodic sentences, numerically quantified direct or indirect object nominals, verbal measures, frequency phrases, duration phrases, excess measure phrases in comparative constructions, numerically quantified nominal predicates, predicates in copula sentences, and possibly some further similar constituents, must not move to any position in front of the verb, no matter whether cài is used or not.⁴

(13) Bare non-generic object nouns:
   (cf. (12))

(14) Numerically quantified indefinite object nominals:
   a. Lǎo Lǐ cài mǎi-le SÁN-BĒN SHU.
      Old Li CAI buy-ASP 3-CL book
      ‘Old Li bought only THREE BOOKS.’
   b. *Lǎo Lǐ (zhìyǒu) SÁN-BĒN SHU (cài) mǎi-le.
      Old Li only 3-CL book CAI buy-ASP
      intended: ‘Old Li bought (only) THREE BOOKS.’

(15) Verbal measures:
   a. Lǎo Lǐ cài tī-le wǒ LING-jǐǎo.
      Old Li CAI kick 1 2-CL:foot
      ‘Old Li kicked me only TWICE.’
   b. *Lǎo Lǐ (zhìyǒu) LING-jǐǎo (cài) tī-le wǒ.
      Old Li only 2-CL:foot CAI kick-ASP 1
      intended: ‘Old Li kicked me (only) TWICE.’

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² Thus, what moves is not just the focus, but the minimal bigger constituent or syntactic island which may move (for a theoretical and cross-linguistic discussion of this focus-related pied-piping effect cf. Drubig 1994).

³ Paris (1981: 329f) and Zhang (1997: 23) present similar data. Both mention the absence of the aspectual marker -le in such habitual sentences.

⁴ Wang (1956) states that post-verbal cài-foci must be numerically quantified. This is true of all the immediately following examples, but the bare noun example (12a) is a counterexample. That almost all post-verbal cài-foci contain a number morpheme is due to the fact that measure phrases with a post-verbal base position usually cannot move to the left of cài. Therefore, Wang’s constraint is purely epiphenomenal. Nonetheless, it is the predominant descriptive generalization in the literature when cases of post-verbal cài-foci are discussed (e.g. Alleton 1972: 135, 142, Paris 1981: 333 or Zhang 1997: 21). Biq (1984: 84) and Lai (1999: 643) explicitly refuse the general validity of Wang’s generalization.

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Triggers and constraints
The fact that the locative phrase is in the post-verbal position in this sentence, while it is in a preverbal one in the preceding sentence, is due to a constraint which requires either a locative or a measure phrase of some kind behind the verb to dwell, to live (in some place). Thus, if (17b) is to get a fair chance, it must have a post-verbal constituent; this is why a less-than-minimal pair is given in (17).

These examples illustrate that canonically post-verbal nominal constituents which cannot move irrespective of cāi may interact with cāi. The unifying generalization for all these cases is that the focused nominals rank low on the definiteness hierarchy or high on a scale of nominal deficiency. The cut-off point is between nominals with definite interpretations, which may move in general and must move if they are to interact with cāi, and nominals with indefinite or non-referential interpretations, which must not move. The bare nouns are a difficult case. Bare focused object nouns in habitual sentences must move in cāi-sentences. They must not move in episodic sentences. The problem is that the property which distinguishes these two cases most straightforwardly—habituality—is a property of sentences, and not of nominals (in the terminology of Kriika et al. 1995: 15, (11b) is a characterizing/habitual sentence with a specific non-kind-referring subject). I am not sure what to do about this awkward mixture of levels. One way out would be to introduce a whole new constraining dimension, namely genericity vs. non-genericity and to recategorize the bare noun cases accordingly. This would make the description a lot clumsier, though. Moreover, I do not know how to tie this new dimension to anything else that is relevant for the analysis of cāi. Therefore, I will leave the descriptive situation as it is now. The descriptive generalization to cover the two sub-cases (i) and (ii) may then be stated as in (21).

(21) If a nominal with a canonically post-verbal base position can move to a pre-verbal position at all, it must do so if (part of) it is the focus interacting with cāi. Whether a nominal may move away from the post-verbal position or not is a function of its referential status: Any nominal which gets interpreted as indefinite or less referential than indefinite on the definiteness hierarchy must not move.

Phrased negatively, we may state the following:

(22) Parametric cāi must not be used if the focus cāi is to interact with can in principle be moved, but has not moved away from its post-verbal base position to a position preceding cāi. Conversely, sentences with cāi are also ungrammatical if a nominal has been moved to a pre-verbal position from its post-verbal base position although it must not be moved because it is indefinite or less referential than indefinite.
The same facts are summarized in Table 3.1.

**Table 3.1: (Visible) movement of canonically post-verbal nominals**

<table>
<thead>
<tr>
<th>interpretation of nominals</th>
<th>definite</th>
<th>indefinite/generic</th>
<th>indefinite</th>
<th>non-referential</th>
</tr>
</thead>
<tbody>
<tr>
<td>movement of post-verbal nominals irrespective of cāi</td>
<td>possible</td>
<td>-</td>
<td>impossible</td>
<td></td>
</tr>
<tr>
<td>movement of post-verbal nominals (partly) in focus in interaction with cāi</td>
<td>obligatory</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

The data we have looked at above are not easily accommodated within accounts subscribing to the Minimalist Program (Chomsky 1995). In general, movement is only a last resort option in this theory. Movement is triggered by the need to check a feature of some functional head. It can be checked if a checker, i.e. a constituent which is syntactically marked for the same feature as instantiated by the head, moves to the specifier position of the phrase which is headed by the functional head (everyday examples of feature checking are agreement phenomena within nominals or subject-verb agreement). Features that are still unchecked at the end of a derivation render a sentence ungrammatical. There are two kinds of features, weak ones and strong ones. Strong features must be checked overtly, i.e. the movement must be visible on the surface (theory-internally this amounts to ‘movement before spell-out’, with spell-out being the point in the derivation where a P(honological)F(orm)-branch and a L(ogical)F(orm)-branch split up the formerly non-branching derivation line). Weak features are checked covertly, i.e. at LF or in that part of the derivation on the way from spell-out to the interface between syntax and the interpretive/semantic component of grammar. This kind of movement cannot be seen directly because it happens after the PF branch of the derivation has received its input.

In the Chinese case we are dealing with here, the fact that foci interacting with cāi usually appear to the left of cāi (i.e. the foci may be argued to have passed through the specifier position of some functional phrase relevant for cāi) has inspired two competing checking accounts. Shyu (1995) - who actually deals with parametric dōu, but the argument carries over - would take cāi to be the head of a functional projection which takes Asp/MP as its complement, i.e. an aspect phrase, a non-epistemic modal phrase or a NegP, thus rendering Asp/MP a sub-

A strong feature of cāi which can be checked by the interacting focus triggers the movement of post-verbal nominals. I subscribe to Shyu’s head-analysis, and within a Minimalist framework I would assume that on some level of representation prior to, or coinciding with, spell-out, the cāi-focus must have occupied the specifier position of the phrase headed by cāi.

In Zhang’s (1997, 2000) theory cāi itself is not a head, but an adverb. It adjoins to some projection of V, i.e. the so-called (universally postulated) light verb above V in the Minimalist Program. Cāi triggers an argument-related feature of the inflectional system (possibly [specificity]) to be strong in the relevant cases, thereby making its overt checking necessary. Some post-verbal constituents in focus which need not move if cāi is not present are thereby forced to move in the presence of cāi to ensure grammaticality. The problem for both accounts starts when foci that stay in a post-verbal position (examples (12) through (20)) enter the picture. Foci that do not move (overtly) cannot check any strong feature. They can, at most, move covertly, and in this case the checked feature would be weak. Foci interacting with cāi thus check a strong feature in all those cases in which the focus appears to the left of cāi (that includes the object-shift cases). The foci that may stay in a post-verbal position must somehow be catered for, or they must be explained away. Shyu explains them away by categorizing their type of focus as a mere PF focusing device which does not involve any feature checking. This is obviously an ad hoc solution, and it leaves the interpretational parallelism between the two different cases (pre-verbal and post-verbal foci) unaccounted for. Zhang, on the other hand, assumes weak feature checking in the cases of cāi foci that appear post-verbally on the surface. In her analysis, post-verbal-cāi foci thus move covertly. The problem with this analysis is that the definiteness or specificity feature of the post-verbal focus triggers the head whose feature must get checked to be weak or strong: Definites make it strong, others make it weak. If a variant of generative syntax is assumed in which several candidates may compete, the “communication” problem vanishes. In such a framework Zhang’s solution would nevertheless have to count as ad hoc.

This is not a syntactic study in the narrow sense of the word, and I only make use of some Minimalist terminology to name things. But what the review of Zhang’s and Shyu’s approaches has shown is that a real prob-

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6 Although syntacticians may want to further split up AspP/MP, the main claim concerning the relative position of what Shyu calls FP seems to be well-grounded. For instance, if a modal verb precedes parametric cāi or dōu, it is always interpreted epistemically, and negation words invariably follow cāi immediately.
lem exists, no matter what theory of syntax we subscribe to: Most cāi-foci must precede cāi, some cāi-foci must move to conform to this rule, and some cāi-foci may not move, but still they are interpretable. Any linguistic framework which aims at analyzing comparable phenomena in a comparable way will be faced with a challenge here. 7

B. Interaction with quantificational expressions

Wang (1956) notices that cāi must not be used if a modal verb intervenes between cāi and the interacting focus, if the focus follows cāi. An example taken from Paris (1981: 334) is given in (23) (= (8a)).

(23) Wǒ (*cāi) nèng hē YI-BÊÁ jiǔ.
I CĀI can drink 1-CL:cup wine.

If, however, the focus precedes cāi, modals or negation words are good immediately behind cāi, as shown in (25) and (26) ((26) is taken from Allerton 1972: 138).

only if you help I I CĀI can take this-few-CL book

(26) Ni zhýǒu KUÁI-PÁO, tā cāi bù nèng zhuǎnshàng nǐ.
you only fast-run (s)he CĀI not can catch up you

The modal verb behind cāi and the negation behind cāi in (25) and (26) are impeccable, so the restriction observable in (23) and (24) is only relevant if cāi’s interacting focus follows cāi. From a superficial syntactic point of view this is quite puzzling because phrases headed by a modal verb or negation are claimed to be the complements of cāi (Shyu 1995; see section 3.1.1 above). The solution to this puzzle is probably essentially semantic or, more accurately, it concerns the syntax-semantics interface. The basic idea is that no inherently quantificational expression may intervene between cāi and its interacting focus, with quantification taken here to cover more phenomena than is often assumed. A researcher who has investigated partially comparable data in detail is Beck (1996). Let us thus turn to her work for a moment. 9 Beck studies certain ungrammatical or uninterpretable structures in German such as the examples in (27) through (29). The general format of such configurations is given in (30) (Beck 1996: 1, 30f).

(27) *Wen hat fast jeder wo getroffen? 10
whom has almost everyone where met

intended: ‘Who did almost everyone where?’
[i.e. ‘Which persons and which places are such that almost everyone met those persons at those places?’]

(28) *Was glaubt Hans nicht, wer da war?
what believes Hans not who there was
intended: ‘Who does Hans not believe was there?’
[i.e. ‘Who is such that Hans does not know that that person was there?’]

(29) *Wen hat nur Karl wo getroffen?
whom has only Karl where met
intended: ‘Who did only Karl meet where?’
[i.e. ‘Which persons and which places are such that only Karl met those persons at those places?’]

(30) *[...X,...[Q,...[L,P,...]]]

In (27) the question word wo ‘where’ is c-commanded by the quantificational expression fast jeder ‘almost everyone’, but it would have to take scope over this very expression if it were to be interpreted, just like wen ‘whom’ does. Beck, as a follower of the mainstream paradigm of re-

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7 Actually, this situation may be less of a challenge for a constraint-based Optimality-Theoretic account in the spirit of Prince & Smolensky (1993). Vikner (2001) is such an analysis dealing with object shift in Germanic, but the data covered by him are not sufficiently similar to allow for a smooth application to our case. I will not attempt to state any constraint-based argument here, although the final part of Zhang N. (2000) may be read as an approach heading in this direction.

8 Parametric cāi is the only parametric word for which I investigate this kind of behaviour. The reason for this is that cāi is the only parametric word which tolerates foci to its right, and the structures for which problematic interactions with quantificational expressions can be found are typically of this kind. However, as we will see in the course of this sub-section, problematic data also exist for sentences with pre-cāi foci (cf. the examples in (40) and (41)). For analogous cases with other parametric words, parallel investigations are a desideratum.

9 Beck uses ‘*’ to mark ungrammatical sentences, and ‘??’ for uninterpretable sentences. The delimitation of these two categories appears to be partially dependent on one’s theory. I adopt her conventions for the quoted examples.

10 (27) is fine if wo ‘where’ is interpreted as an indefinite pronounal (=irgendwo ‘somewhere’) and not as a question word. This reading is not relevant here.
search dealing with the syntax-semantics interface, assumes that scope relations are reflected on some syntactic level of representation. On the latest level of syntactic representation, immediately prior to the interpretational component, all scope ambiguities that may be present on the surface must have been lifted. This syntactic level is a(n) LF(ogical)(F orm)-level. On this level wo ‘where’ of sentence (27) would have to have moved covertly to a position dominating the quantificational expression fast jedes ‘almost everyone’. The fact that (27) is uninterpretable shows that something has kept it from doing so. Beck assumes that it is the quantificational expression itself that blocks the required LF-movement. Note that an intervening proper name poses no interpretational difficulties; cf. (31) which does have a reading with a question word interpretation of both wen ‘whom’ and wo ‘where’.

(31) Wen hat Karl wo getroffen?

‘Whom did Karl meet where?’

In (28) and (29), wer ‘who’ and wo ‘where’ cannot move across nicht ‘not’ and nur ‘only’, respectively, despite the need to move to a position where their scope is reflected by their (LF-)syntactic position. Therefore (28) and (29) are out. Beck (1996: 39) generalizes her findings as in (32).

(32) a. **Quantifier-Induced Barrier (QUIB):**

The first node that dominates a quantifier, its restriction, and its nuclear scope is a Quantifier-Induced Barrier.

b. **Minimal Quantified Structure Constraint (MQSC):**

If an LF trace \( \beta \) is dominated by a QUIB \( \alpha \), then the binder of \( \beta \) must also be dominated by \( \alpha \).

(32a) states that QUIB’s coincide with the highest node of tripartite quantificational structures in the sense of Lewis (1975) and his followers. (32b) defines those configurations that allow the co-existence of a QUIB and an LF-trace which is dominated by that QUIB: An LF-trace may only be dominated by a QUIB if the QUIB also dominates the binder of that trace, i.e. the moved element itself. Beck claims that quantification is the semantic notion which correctly covers the cases she investigates. To maintain this claim, she adopts Kratzer’s (1989) theory of negation which subsumes negation under quantificational phenomena in a situation-semantics framework. Obviously, Beck’s findings do not hold universally (cf., for instance, the good English translation of (29)). She speculates that the MQSC may be active in German for the following reason: Since in large portions of German sentences (more accurately: in the so-called ‘Mittelfeld’) the surface positions of quantificational expressions must reflect their respective scopes, LF-movement must be heavily restricted. If it were not, LF-movement might confuse the correct relative position of quantificational expressions again. This brings us back to Chinese. Chinese, just like German, only allows few situations in which surface position and interpretational scope do not coincide (cf. Huang 1982 or Aoun & Li 1993). So, it will not be a surprise to find Beck’s MQSC active in Mandarin. Note that Beck merely stipulates the MQSC, she does not tie it to other facts of German grammar in a theoretically explicit fashion, and I will not do this, either. But the mere fact that the MQSC can be shown to be active in Chinese just as in German makes it quite a useful stipulation.

How exactly does this carry over to Mandarin? Remember that (23) and (24), repeated in reverse order here as (33) and (34), are bad with cāi only because the interacting focus follows cāi and the modal verb or the negation word, respectively.

(33) Wǒ (*cāi) měi yǒu wū-kuāi qián.

I CĀI not have 5-CL:MU money

intended: ‘I (only) don’t have FIVE KUAI’.

(34) Wǒ (*cāi) nèng hē yī-bēi jiǔ.

I CĀI can drink 1-CL:cup wine

intended: ‘I can (only) drink ONE GLASS of wine.’

If we assume that foci interacting with cāi must take wide scope relative to negation, Beck’s restriction will keep the focus wū-kuāi (qián) ‘five Kuai’ from doing so, because crossing the quantificational intervener měi ‘not’ is, according to the MQSC, impossible for the focus. The reading that is excluded in this scenario is: ‘The amount of money ‘five Kuai’ is the only thing I don’t have, but I have other things.’ The other a priori possible interpretation (‘It’s not the case that I have only five Kuai’) is excluded by the assumption that the cāi-focus must have scope over negation – in the end this is reflected by the only possible surface order of the function words cāi and bù/měi ‘not’ if they occur in a single clause. Beck’s survey of possible interveners or QUIB’s does not include modal verbs, whereas (34) is an example in which nèng ‘can’, a modal verb, is the only possible intervener. Modality has convincingly been shown to be a quantificational phenomenon (cf. e.g. Kratzer 1981, 1991a), with the special kind of possibility or ability as in (34) amounting to existential quantification over certain possible worlds. (Necessity, on the other hand, involves universal quantification over certain possible worlds. Modality is discussed in more detail in sections 5.1 and 5.2.) So, if the modal verb
is the intervener in (34), the interpretation 'Only of the amount “one glass of wine” is it true that I can drink it' is excluded by Beck's generalization, because the cāi-focus cannot move across the modal verb. Less theory-specifically, we may just state descriptively that the quantificational expression nēng 'can' keeps the cāi-focus from taking scope on the level of cāi. If there is another logically possible interpretation in which nēng 'can' would take wide scope (something like: 'It is possible that I drink only one glass of wine'), this interpretation is again excluded because its scope relations do not reflect the surface order of cāi and nēng 'can'.

We have two descriptive generalizations so far: The fixed order of mono-clausal cāi on the one hand, and of modal verbs and negation on the other, determines the scope relations between the cāi-focus and the modal verb or negation; a sentence with cāi is uninterpretable or ungrammatical if a modal verb or a negation word (i.e. an inherently quantificational expression) intervenes between cāi and a post-verbal focus (Beck's MQSC).

But this is not the whole story yet. To see what the problem is, consider (35) first.

    'All children are only FIVE YEARS old.'

b. *Méi-ge rén dōu cāi yí bǐ Lǎo Lǐ gāo yì Lǐ-mǐ.
    'Every-CL person each CAI compared with Old Li tall 1-CL:cm
    'Every person is only ONE CENTIMETRE taller than Old Li.'

These sentences have universally quantified subjects which trigger the obligatory use of the distributivity marker dōu (on dōu as a distributivity marker, see Lin 1996, 1998), and they can have cāi-foci at the same time. So, it is in principle possible to have both phenomena side by side in a single sentence. But this only holds true as long as the fixed scope order which is predetermined by the relative position of distributive dōu and cāi is not confused by a cāi-focus to the left of distributive dōu. This is shown in (36) and (37).

(36) a. *Zhēhèi suǒyóu yè rén dōu zhiyǒu ZHIÌMUó cāi gōngzuò. here all person each only WEEK-END CAI work
    'Here all people only work DURING THE WEEK-ENDS.'

b. *Zhēhèi suǒyóu yè zhiyǒu ZHIÌMUó dōu cāi gōngzuò. here all person only week-end each CAI work
    'Here all people only work DURING THE WEEK-ENDS.'

(37) a. *Méi-ge rén dōu chūfēi Nǐ LÀI cāi qu. every-CL person each only if you come CAI go
    'Everybody only goes if YOU COME.'

b. *Méi-ge rén chūfēi Nǐ LÀI dōu cāi qu. every-CL person only if you come each CAI go
    'Everybody only goes if YOU COME.'

c. *Chūfēi Nǐ LÀI, méi-ge rén dōu cāi qu. only if you come every-CL person each CAI go
    'Everybody only goes if YOU COME.'

As long as the cāi-foci remain to the right of distributive dōu ((35), (36a) and (37a)), the sentences are fine, or at least interpretable, as soon as they appear higher up in the sentence than dōu the sentences become ungrammatical. Note that if no scope-bearing or scope-marking element precedes cāi, cāi-foci at the left periphery of sentences are impeccable.

(38) Zhiyǒu ZHIÌMUó wǒmen cāi gōngzuò. only week-end we CAI work
    'We work only ON WEEK-ENDS.'

(39) Chūfēi Nǐ LÀI, wǒ cāi qu. only if you come I CAI go
    'Only if YOU COME will I go.'

The general picture which emerges from these data is that no quantificational expression may intervene between cāi and its interacting focus, neither to the left, nor to the right. This has only been shown in detail...
for negation, modal verbs and distributive universal quantification, but the generalization carries over to other quantifying expressions. (40) and (41) are data with adverbial quantifiers which support the claim:

(40) a. Pingchang women zhìyù, ZHOUMÓ cài gōngzuò. usually we only week-end CAI work ‘We usually only work ON WEEK-ENDS.’
b. Wùmen pingchang zhìyù ZHOUMÓ cài gōngzuò. we usually only week-end CAI work ‘We usually only work ON WEEK-ENDS.’
c. *Wùmen zhìyù ZHOUMÓ pingchang cài gōngzuò. only week-end we usually CAI work intended: ‘We usually only work ON WEEK-ENDS.’

(41) a. Yǒude shìhou women zhìyù ZHOUMÓ cài gōngzuò. sometimes we only week-end CAI work ‘Sometimes we only work ON WEEK-ENDS.’
b. Wùmen yǒude shìhou zhīyù ZHOUMÓ cài gōngzuò. we sometimes only week-end CAI work ‘Sometimes we only work ON WEEK-ENDS.’
c. *Wùmen zhìyù ZHOUMÓ yǒude shìhou cài gōngzuò. we only week-end sometimes CAI work intended: ‘Sometimes we only work ON WEEK-ENDS.’
d. *Zhìyù ZHOUMÓ wùmen yǒude shìhou cài gōngzuò. only week-end we sometimes CAI work intended: ‘We sometimes only work ON WEEK-ENDS.’

Although both pingchang ‘usually’ and yǒude shìhou ‘sometimes’ may, just like cài-foci, in principle occur both in preverbal and in sentence-initial position, they must not intervene between cài and its interacting focus. The penultimate version of the descriptive generalization concerning the interaction of cài, cài-foci and other quantificational expressions is given in (42).

(42) No quantificational expression may intervene between parametric cài and its interacting focus. (to be revised)

A last refinement is necessary. In the examples (43a-c) it is not enough to refer merely to linearization and intervening quantifying expressions.

In (43a) and (43b) the very expressions which were not allowed to intervene between cài and its interacting focus in (33) and (34) above, namely bù ‘not’ and néng ‘can’, are now possible interveners. Even if we take into account that these words do, on the surface, not intervene configurationally – following any sensible syntactic tree from the focus nǐ ‘you’ to cài will not lead via a node immediately dominating bù or néng – the problem does not vanish. This is so because in (43c) the universally quantified embedded subject suǒyóu péngyōumén ‘all friends’ precedes the focus, but it intervenes configurationally. So, in the case of embedded clauses with cài-foci neither the linear nor the configurational intervening of inherently quantificational expressions prevents good interpretations and grammaticality, (44) is thus a more accurate descriptive generalization than (42) above.

(44) Within the clause which hosts parametric cài, no quantificational expression may intervene between cài and its interacting focus.

In (45) the descriptive generalizations of this section are repeated. If they are descriptively adequate, they should cover all and only those cases in which the use of parametric cài is impossible.

(45) a. Movement of nominals and (un)grammatical cài:
Parametric cài must not be used if the focus cài is to interact with can in principle be moved, but has not moved away from its post-verbal base position to a position preceding cài. Conversely, sentences with cài are also ungrammatical if a nominal has been moved to a pre-verbal position from its post-verbal base position although it must not be moved because it is indefinite, or less referential than indefinite.

b. Interaction with quantificational expressions:
Within the clause which hosts parametric cài, no quantificational expression may intervene between cài and its interacting focus.
3.2 Triggers and Constraints: Parametric Jiù

I know of no previous attempt at determining the factors which, apart from the focus-semantic requirements discussed in the following chapter, render the use of parametric jiù obligatory or impossible in a given sentence. This is quite remarkable if we recall from the preceding section how much attention has been paid to facts of object shift that may be observed in connection with the use of cāi. The main finding of this section is that the foci interacting with parametric jiù invariably precede jiù, a fact which makes jiù as opposed to cāi—a more prototypical representative of the category to which all of parametric cāi, jiù, dōu and ye belong. As regards jiù's structural position the results concerning parametric cāi fully carry over (cf. section 3.1.2 and p. 58, in particular). Jiù is a functional head at the left periphery of the predicative complex.

3.2.1 Where parametric jiù must be used

A. Zhīyào-foci and zhīyào-C-topics as triggers of jiù

For a sentence in which parametric jiù must not be left out, consider (46).

(46) Zhīyào xīngqī tài Tīnqī hào, wǒ * jiù gū pā shān.
if Sunday weather good I jiù go climb mountain
'I go mountain-climbing on Sundays if THE WEATHER IS FINE.'

If compared with cāi-sentences, the familiar facts about (46) include the following: Jiù is preceded by a focus in a subordinate clause, and the subordinate clause receives a conditional interpretation.14

Now compare (46) with (47) to see that the use of zhīyào ['preliminarily: if'] is crucial for the grammaticality facts concerning jiù.

(47) Ruguo xīngqī tài hào, wǒ jiù gū pā shān.
if Sunday weather good I jiù go climb mountain
'If the weather is fine on Sundays, I go mountain-climbing.'

(46) and (47) are segmentally identical, except for the use of zhīyào as opposed to rūgūo at the beginning of the first clause. While the use of zhīyào leaves the speaker no choice, starting the sentence with rūgūo does not determine anything about the use of jiù in the second clause. Let us look a bit closer at the element zhīyào to understand better what the reasons for this difference are. Another example of a sentence with zhīyào can be found in (48).

14 The second point actually requires a more detailed discussion. Part of this discussion starts immediately below, and more will be said in section 5.1. The semantics of conditionals is treated in sections 4.1.5 and 4.2.3.

(48) Zhīyào zhī Lǎi, wǒ * jiù gū.
if you come I jiù go
'If YOU COME, I will go.'

Literally, zhīyào means 'only-need' or 'it is only necessary'. Another good translation of (48) would accordingly be 'In order for me to go you only have to come'. It is positively not the case that speakers of Mandarin no longer feel the only-meaning and the necessity-meaning of the components of zhīyào, or that its lexical origins are merely a historical fact. Quite the opposite: Most spontaneous translations of zhīyào-sentences will contain pertinent only-words and necessity operators. Two consequences follow, a welcome one and a not-so welcome one.

The good news first: An only-word like zhīyào requires a focus or C-topic (in the sense of Büring 1997, to appear) in its c-command domain, i.e. somewhere in the rest of the same clause in our case.15 In other words: Whenever zhīyào is used, the presence of an information-structurally distinguished category preceding the position of jiù is ensured (remember that jiù is a constituent of the following clause). That is tantamount to saying that (46), repeated here as (49), is good as a (partial) answer to either of the questions in (50a) and (50b), provided the information structure is specified accordingly; it is, however, bad as an answer to (50c), because neither a focus nor a C-topic would precede jiù in this context. No such effects occur with rūgūo-sentences as in (47).

(49) Zhīyào xīngqī tài hào, wǒ jiū gū pā shān.
if Sunday weather good I jiù go climb mountain
'I go mountain-climbing on Sundays if the weather is fine.'

(50) a. On what condition do you go mountain-climbing on Sundays?
   b. What do you usually do on Sundays, depending on the weather?
   c. What do you do on Sundays if the weather is fine?

This brings us closer to assimilating the case of jiù to the case of cāi. But now another question arises: If an only-word precedes jiù in zhīyào-sentences, why, then, is the use of jiù obligatory, and not the use of cāi? Recall from section 3.1.1 that what may sloppily be called only-foci trigger the use of cāi. Without stating the exact semantic nature of zhīyào-foci here (see section 5.1), let us merely note one important fact about

15 The notion of C-topics will be discussed at length in section 4.2.4. To understand the present discussion without making a loop ahead and back again, readers who are not familiar with Büring's C-topics can safely substitute any intuitive idea of contrastive topics for the term 'C-topic' at this stage of the discussion.
They: Although zhiyao contains an only-word, zhiyao-clauses and Mandarin only-if-clauses, i.e. those subordinate clauses which trigger the use of cai, have different meanings. Compare (48) with (51) (= (1c)).

(51) Zhiyao Ni Lai, wo cai qu.

only if you come I Cai go

‘Only if YOU COME will I go.’

(51) is not true if the addressee does not come, but the speaker goes. In identical conditions (48) may be true, for instance if the addressee’s coming is not the only incentive to go. Therefore, the interpretations of (48) and (51) differ. The conclusion is that zhlyao-foci and only-if/zhlyao-foci are not the same, and that the use of jii as opposed to cai thus reflects a different (focus) semantics.

At this point we may state the descriptive generalization in (52).

(52) Obligatory jii (to be revised):

Parametric jii is used if a zhlyao-focus or zhlyao-C-topic precedes the structural position of jii.

Admittedly, the scope of the generalization in (52) may appear to be frustratingly narrow, since jii is used in so many sentences in which zhlyao is not used (cf. the overview in section 2.2.1). Mandarin simply does not have many lexical items which ensure focus readings of the jii-triggering kind. Still, more contexts exist in which speakers, as in zhlyao-sentences, have no choice but to use jii; cf. (53) for another case of this kind.

(53) Guang ZHE-JIAN shi *(jii) shuo ming tu hén nenggan.

alone this-CL matter jii demonstrative (s)he very competent

‘This matter alone demonstrates (s)he is very competent.’

(hx: 347)

If guang ‘alone, merely’ is used adnominally, it is interpreted like post-modal alone in English. As with example (49) above, we are not interested in the exact difference between only-foci and alone-foci at this stage of the investigation. What matters here is that (53) does not mean ‘The only thing that demonstrates his/her competence is this matter’, i.e. the interpretation the sentence would have with zhlyao ‘only’ and cai instead of guang and jii. We thus know that the focus interacting with jii in (53) is not interpreted the way cai-foci are interpreted and that guang, like zhlyao, is an element which triggers the use of jii.

If we assume that it is possible to characterize the terms ‘zhlyao-focus’ and ‘zhlyao-C-topic’ irrespective of the use of zhlyao or any other focus marker, we may retain (52) by saying that ‘zhlyao-focus’ and ‘zhlyao-C-topic’ are just names for the postulated semantically constant kinds of foci or C-topics invariably preceding jii. Remember that this chapter is not concerned with explicating the focus semantics of specific sentences, but rather with understanding the (non-)occurrence of parameteric words provided the focus semantic facts are kept constant and appropriate.

Recall from above that we still have to mention a bad consequence of the fact that zhlyao-clauses contain an only-word and a necessity operator. The bad news is about an apparent syntax-semantics mismatch.

(54) Zhlyao nǐ nuliide di shu,

only-must you hard-working study book

nǐ jii kuiy kao-shang dao xue.

you jii can pass exam onto university

‘If you study hard, you can pass the university entrance examination.’

Two translations have been given for (54). The first one with an if-clause nicely reflects the subordinating character of zhlyao (and zhlyao is invariably listed as a subordinating conjunction in grammars of Mandarin), the second one does justice to the presence of an only-morpheme (zh) and a necessity operator (yao) in the first clause. The dilemma arises from the fact that, in English, we cannot have both at the same time: an initial subordinate clause, and an only-have-to-sequence. If we try, we get ‘If you only have to study hard, you can pass the university entrance examination’, and this is not quite what (54) means. This sentence is so different from (54) because the necessity operator have to in a subordinate if-clause cannot take scope over the whole sentence, and that is precisely what zhlyao’s necessity operator in (54) does. Therefore, if the specific modality of (54) is to be rendered in English, the first English clause must not be subordinate, and the Mandarin main clause must be changed into an English purposive clause with scope below have to.

This dilemma is by no means rare, and many researchers, without mentioning the problem, often resort to English matrix-clause translations of zhlyao-clauses in order to do justice to the presence of a marker of necessity. The problem is not confined to parametric jii; it extends to many uses of cai (and zai; see section 4.5 on zai), and the whole of section 5.1 will be dedicated to the discussion of alleged syntax-semantics mismatches of this kind. Still, there is a good reason why the problem has already been mentioned here: In order to find out why the use of jii is obligatory after zhlyao-clauses, the internal make-up of the word zhlyao
had to be discussed. It was only possible to put the focusing nature of *zhīyào* to use at the price of also recognizing the modal component of *zhīyào*. Now we know that we can attribute the obligatoriness of *jiù* after *zhīyào*-clauses to the obligatoriness of a special kind of focus or C-topic following *zhīyào*, but we are confronted with the fact that, at the present moment, we cannot reconcile the subordination of *zhīyào*-clauses with the wide scope of *zhīyào*’s necessity operator.

**B. Problems with the generalization**

Generalization (52) predicts that sentences with preverbal *zhīyào*-foci or preverbal *zhīyào*-C-topics, but without *jiù* should not exist. Examples such as (55) are attested, though, and (55) is not some utterance distorted by performance factors, but rather a sentence from a novel (adapted from Hou ed. 1998 [= hx]).

(55)  
*zhīyào [Wǒ bā wò duì tā-de yǐnxīăng shuōchūlai]C-topic if I bāI to his-ATTR impression speak out tā [ ... ] bù hūi guāizhǐ wǒ. he not will blame I

"If I TOLD HIM WHAT MY IMPRESSION OF HIM WAS]C-topics, he WOULDN’T BLAME ME." (hx: 754)

In (55) *jiù* is not used in the position where the empty brackets have been inserted, but it may be used. Hou annotates such examples as being possible in colloquial language, or if some other adverb (*fūcì*) is used. In fact, all of the examples cited in Hou (ed.) (1998) have negation words or adverbs encoding some kind of universal quantification following the structural position of (optional) *jiù*; the adverbs are *yǐándīng* ‘necessarily, positively’, *dōu* ‘each/all’ (= distributive *dōu*, cf. section 2.3.2), *quán* (a stylistic variant of distributive *dōu*) and *zhōng* ‘always’.

Even if we ignore the colloquial cases of *jiù*-ellipsis, the examples with the quantificational adverbs and negation words hint at a systematic phenomenon. It would have to be discussed in a study of the interaction of different kinds of function words in the left periphery of Mandarin predicates. In the present study only part of the groundwork for such an ambitious project is laid.

Within the narrower scope of this study, I will maintain the generalization in (52), well aware of the fact that it is too strong to account for cases as in (55).

**3.2.2 Factors constraining the use of parametric *jiù***

Section 3.2.1 has taught us that whenever a focus or C-topic of the appropriate kind precedes the structural position of *jiù*, *jiù* must be used. If we were to turn the generalization in (52), repeated here as (56) for convenience, into a biconditional as in (56'), we would have to show that parametric *jiù* is never used if the interacting focus follows *jiù*.

(56)  
Obligatory *jiù* (to be revised):

Parametric *jiù* is used if a *zhīyào*-focus or *zhīyào*-C-topic precedes the structural position of *jiù*.

(56')  
Obligatory *jiù*:

Parametric *jiù* is used if a *zhīyào*-focus or *zhīyào*-C-topic precedes the structural position of *jiù*.

A sentence which seems to obviate the statement of the biconditional to replace (56) is given below.

(57)  
*Wǒ jiù xīng hē yī-běi chá.* I jiù like drink 1-CL.cup tea

'I would only like to drink A CUP OF TEA.'

The polite person uttering (57) expresses that he or she wants to drink a cup of tea, and nothing else but a cup of tea. In the English translation the use of *only* ensures this interpretation. In the Mandarin version, *jiù* is used preceding the focus *yī-běi chá* ‘a cup of tea’, and the use of *jiù* is not ungrammatical or infelicitous. Fortunately, this does not affect the generalization in (56') that foci interacting with parametric *jiù* must precede *jiù*, simply because *jiù* in (57) is not an instance of parametric *jiù*, but of the focusing use of *jiù*. In section 2.2.5 this use type has been characterized, and its separation from the parametric use type has been justified, one argument being that *jiù* as in (57) must be stressed, whereas parametric *jiù* is never stressed, just as parametric *cài*, *dōu* and *yě*. There is also an important semantic difference: While the meaning *jiù* contributes in (57) entirely equals that of *zhī* ‘only’, this is never the case if the focus precedes *jiù*. The situation concerning *cài*-foci which follow *cài* was different (see section 3.1.2): Post-*cài* foci of the parametric kind could not be explained away, simply because there was no discernible difference in the relevant meaning no matter whether *cài* preceded or followed its interacting focus.

According to what will be stated in section 4.2, the meaning we should expect for (57) if we were dealing with parametric *jiù* would be something like ‘I would like to drink a cup of tea, and I might possibly like to drink something else as well, but it is not the case that I want to drink everything else’. This is not what (57) means, because (57) explicitly excludes the possibility that the speaker wants to drink anything else in addition to a cup of tea.
At this point, readers may have a last suspicion. In section 3.1.2 a lot of space was devoted to movement facts: Some canonically post-verbal câi-foci could move to the left of câi, rendering the otherwise bad sentences grammatical. This contrast is reproduced in (58) (cf. (7)).

   Old Wānɡ cāi buy-ASP this-CL book
   intended: ‘Old Wang has bought ONLY THIS book.’

b. Lǎo Wānɡ (zhīyōu) zhē-bēn shū cāi māi-le.
   Old Wānɡ only this-CL book câi buy-ASP
   ‘Old Wang has bought only THIS book.’

(58a) is bad because a nominal which may move to the left of câi has not done so. Accordingly, (58b) is fine. In the case of câi, this kind of remedy was restricted to definite nominals and bare nouns in habitual sentences, anything further down the definiteness hierarchy could not be moved. Thus, if anything could help potential post-jiú foci, it should be movement. (59) tests this for sentences which are parallel to the ones in (58), but this time parametric jiú is used instead of câi.

   Old Wǎnɡ jiú buy-ASP this-CL book
   intended: ‘Old Wang has bought THIS book.’
   [good as: ‘Old Wang has bought ONLY THIS book.’]

b. *Lǎo Wānɡ zhē-bēn shū jiú māi-le.
   Old Wǎnɡ this-CL book jiú buy-ASP
   intended: ‘Old Wang has bought THIS book.’

Both sentences in (59) are bad if jiú is to be interpreted as parametric. (59a) has a good reading, but it involves jiú in its focusing use: ‘Old Wang has only bought THIS book’ (this is parallel to the case of (57)) above). A parametric reading would be ‘Old Wang has bought THIS book(, and he may have bought other books, as well, but he has not bought all books)’. If anything can move in jiú-sentences, the most definite nominals should be among the movable nominals. Since they cannot move, we are left with the conclusion that parametric jiú may never be used if it precedes the (ordinary) syntactic position of its interacting focus. Therefore, we do not need a further restriction parallel to the movement constraint for câi as formulated in (21)/(22), and (60) (= (56’)) is our last word concerning the distribution of parametric jiú.

(60) Obligatory jiú:
   Parametric jiú is used iff a zhīyáo-focus or zhīyáo-C-topic precedes the structural position of jiú.

3.3 TRIGGERS AND CONSTRAINTS:
PARAMETRIC ĐÔU AND PARAMETRIC YÈ

In this section, obligatory and ungrammatical uses of parametric dōu and yè are presented together. This is done for the following reason: The descriptive generalizations that are needed overlap heavily, and the differences and similarities can probably best be demonstrated if they are dealt with simultaneously.

I will first concentrate on contrasts having to do with movement, and the relative position of dōu and yè and their foci (section 3.3.1); section 3.3.2 will provide first attempts at stating the descriptive generalizations concerning the obligatory use of parametric dōu and parametric yè. I will then look at the relevant facts from the perspective of generalizations that only hold for sub-domains of the whole distribution of parametric dōu or yè (section 3.3.3); this amounts to stating some restrictions having to do with ungrammatical uses of dōu or yè. The section concludes with diagram representations of the investigated domains and with a final statement of the descriptive generalizations (section 3.3.4).

Quite a few generalizations of this section do not seem to have been stated before. This is remarkable since portions of the empirical domain covered belong to the classic problems of Chinese linguistics (the lián...dōu/yè-construction, for instance, sequences of negative polarity items and dōu/yè, or the wh-word...dōu/yè-construction). I take this as further encouragement to concentrate on facts of distribution and natural-class constitution before turning to more theoretical challenges.

3.3.1 The relative position of parametric dōu/yè and their interacting foci or wh-words

The sentences in (61) illustrate the most important descriptive generalization concerning the relative position of dōu/yè and their interacting categories: All interacting foci or wh-words precede dōu and yè.

(61) a. Lián MÉIjūn dōu xiàng cānītiá!
   even Meijun DOU want attend
   ‘Even MEIJUN wants to attend!’

   a’. Xiǎo Wānɡ lián jī-RÔU dōu bū chī!
   Little Wang even chicken-meat DOU not eat
   ‘Little Wang doesn’t even eat CHICKEN!’

   a’’. Xiǎo Wānɡ dōu bū chī lián jī-RÔU!
   Little Wang DOU not eat even chicken-meat
   intended: ‘Little Wang doesn’t even eat CHICKEN!’

   a’. Xiǎo Wānɡ lián jī-RÔU dōu bū chī!
   Little Wang even chicken-meat DOU not eat
   ‘Little Wang doesn’t even eat CHICKEN!’
In sentences in which a wh-word/indefinite nominal precedes or follows its focus, the focus is identical to that of the constituent in which the wh-word/construction is not tied to the use of lian 'even': As long as the accent on the focus is strong enough, an even-reading is ensured by mere intonation and the use of dou; in these cases the object must also be preposed. These are instances of emphatic assertions, a notion that will only be alluded to in this chapter; it will be discussed in more detail in section 4.3.2. (62c) and (62d) constitute the background against which these data must be judged: In the absence of dou, the object may be preposed, but it need not.

Moreover, (62a) and (62b) show that the regularity concerning the preposing of objects in lian...dou-constructions is not tied to the use of lian 'even': As long as the accent on the focus is strong enough, an even-reading is ensured by mere intonation and the use of dou; in these cases the object must also be preposed. These are instances of emphatic assertions, a notion that will only be alluded to in this chapter; it will be discussed in more detail in section 4.3.2. (62c) and (62d) constitute the background against which these data must be judged: In the absence of dou, the object may be preposed, but it need not.

Recall from section 3.1.1 that object-preposing in the case of parametric caii was limited to objects of high referentiality. The only nominals that could be moved were definites and bare nominals in habitual sentences. Zhang N. (2000: 233) has observed that foci used with parametric dou may have a less referential status and still move to a position preceding the verb; cf. (63).

In this habitual sentence the object nominal yi-xie jiuxinfeng 'some old envelopes' cannot possibly denote a specific set of envelopes, simply because the habituality of the sentence has it that quantification over

16 See section 2.3.3 for cases in which putative foci may follow dou. There, I argued that such cases belong to a different, viz. emphatic, use type.
17 Refer back to section 2.4.3 for the focusing use of ye in which interacting foci may precede or follow ye.
different events with different sets of envelopes is involved in the interpretation of the sentence. Zhang’s observation can be generalized: Any postverbal complement-like constituent in focus and many verbal constituents in focus may and must be preposed if they are to interact with parametric dōu. Let us test this for some more classes of elements that usually occur behind the structural position of dōu.

(64) Negative polarity items/Measure phrases denoting (contextually) minimal quantities in object function:

a. Lǎo Li (liǎn) yī-jū HUÀ dōu shuòbuchūlài.
Old Li even 1-CL:speech-unit speech DOU not.be.able.to.speak ‘Old Li couldn’t even say A WORD.’

b. *Lǎo Li dōu shuòbuchūlài (liǎn) yī-jū HUÀ.
Old Li DOU not.be.able.to.speak even 1-CL:speech-unit speech intended: ‘Old Li couldn’t even say A WORD.’

c. Lǎo Li shuō-le yǐ-jū huà.
Old Li speak-ASP 1-CL:speech-unit speech ‘Old Li said something.’

The negative polarity item in the object function in (64a) must be moved to a position preceding dōu. If it remains in situ, the sentence gets ungrammatical as in (64b). (64c) demonstrates that the string yī-jū HUÀ ‘a speech unit’ may appear in post-verbal position; but in this case it is not interpreted as a negative polarity item, nor is dōu used in this case.

Negative polarity items or measure phrases denoting (contextually) minimal quantities may also be used as canonically post-verbal complements of frequency or duration, as witnessed by (65) and (66).

(65) Negative polarity items/Measure phrases denoting (contextually) minimal quantities as canonically post-verbal complements of frequency:

a. Tā (liǎn) yī-cì dōu méi lái-guò.
(s)he even 1-CL:time DOU not.have come-ASP ‘(s)he hasn’t even come ONCE!’ (Paris 1994: 249)

(s)he DOU not.have come-ASP even 1-CL:time intended: ‘(s)he hasn’t even come ONCE!’

c. Tā lái-guò yī-cì.
(s)he come-ASP 1-CL:time ‘(s)he’s been here once before.’

(66) Negative polarity items/Measure phrases denoting (contextually) minimal stretches of time as canonically post-verbal complements of duration:

a. Tā (liǎn) yī-HUI dōu zuòbuzhū.
(s)he even 1-CL:moment DOU unable to sit still ‘(s)he can’t sit still for even a SECOND!’

b. *Tā dōu zuòbuzhū (liǎn) yī-HUI.
(s)he DOU unable.to.sit.still even 1-CL:moment intended: ‘(s)he can’t sit still for even a SECOND!’

c. Tā zuò-zhū-le yī-HUI le.
(s)he sit-still-ASP 1-CL:moment PRT ‘(s)he sat still for a moment.’

d. Tā (liǎn) yī-FEN zhōng dōu méì păo.
(s)he even 1-CL:minute clock DOU not.have run ‘(s)he hasn’t run for even a MINUTE!’

e. *Tā dōu méi păo (liǎn) yī-FEN zhōng.
(s)he DOU not.have run even 1-CL:minute clock intended: ‘(s)he hasn’t run for even a MINUTE.’

f. Tā păo-le yī-fen zhōng le.
(s)he run-ASP 1-CL:minute clock PRT ‘(s)he’s run for a minute.’

In both of (65) and (66) the pattern found to hold of objects likewise emerges: In spite of their canonical position behind the verb (cf. the c-sentences and (66f)), negative polarity items and (contextually) minimal measure phrases acting as complements of frequency or duration are preposed if they interact with dōu.

If we turn to the verbal categories, we find the same pattern with non-stative verbs (cf. (67a)) and tight verb-object constructions (cf. (67b)), but not with gradable properties expressed by stative verbs (cf. (67c) and (67d)). All possible cases involve verb-copying and negation.

(67) a. Lǎo Li liǎn LÉI dōu méi lái.
Old Li even come DOU not.have come ‘Old Li hasn’t even COME.’

b. Tā CHǔ Qī dōu chūbushānglái.
(s)he go out breath DOU not.manage.to.breathe ‘(s)he didn’t even manage to BREATHE.’ (ad. Allleton 1972: 80)

c. *Tā liǎn LÉI dōu bù lèi.
(s)he even tired DOU not.tired intended: ‘(s)he’s not even TIRED.’ (Paris 1995: 174)

18 Stative verbs in Mandarin comprise most words that are categorized as adjectives in English and other European languages. In Chinese, these words clearly constitute a sub-class among verbs. Distributionally, they mainly differ from dynamic verbs in being able to be modified by adverbs of degree. See Paris (1995) for further discussion.
d. *Tā shēnzhī MÀNYÌ dōu bù MÀNYÌ.
(she) even content DOU not content
intended: ‘(S)he’s not even CONTENT.’

Verb-copying is a well-known phenomenon in Mandarin, and I will not comment on it any further here except for noting that it is, of course, the verbal instance preceding dōu which is in focus and which bears stress; the copy behind dōu more or less only serves the purpose not to leave the sequence of dōu and the negation word stranded.

Given that in the case of parametric dōu, not just nominals, but also verbal constituents may move to a position preceding dōu, it is a puzzling fact that verbs denoting dynamic processes may move, while verbs denoting comparatively time-stable concepts such as lèi ‘(be) tired’ or MÀNYÌ ‘(be) content’ may not; after all, the concepts encoded by stative verbs clearly bear more ontological resemblance to nominal concepts than the concepts of dynamic verbs do. If we assume that the ability to move to a position preceding dōu is somehow governed by a single overarching principle, we would not expect there to be an ontological gap between nominal borderline cases such as frequency complements on one side, and dynamic verbs on the other, such that those verbal concepts that are ontologically closest to nominal predicates are excluded from preposing. I will leave this puzzle for future research.

What about post-verbal elements that may not be preposed then, such as stative verbs or resultative endings? In Chinese conversations, situations do arise in which one would like to say things like He wasn’t even content with what he had, let alone happy or The two actors didn’t just act together, they even acted together with utmost excellence. In these contexts shēnzhī ‘even’ may be used. Examples are given below.

(68) *Tā shēnzhī bù MÀNYÌ, gèng bì biè shūhòu GAOXING le.
(she) even not content let alone happy PRT
‘(S)he’s not even CONTENT, let alone HAPPY.’

(69) [The two actors didn’t just act together... ]
[... ] tāmen shēnzhī pēihé-de jí-MIÀO! (ad. hx: 296)
they even cooperate-CSC extremely-excellent
‘... they even acted together WITH UTMOST EXCELLENCE!’

Shēnzhī is thus akin to zhī ‘only’, a focus particle preceding predicates which must have its focus to its right (see section 1.1).

In this sub-section we have investigated several kinds of elements canonically occurring behind the structural position of dōu. Most of these elements may move to a position preceding dōu, thereby allowing them to interact with dōu. What we have not found were cases in which an element must stay in situ and may still interact with parametric dōu.

B. Ye-foci must precede parametric yē
If we only look at facts of relative position, and gloss over some differences to be noted in section 3.3.3 below, foci in parametric yē-assertions and foci in parametric dōu-sentences behave alike: Liàn/Even-foci must precede yē, and if the respective syntactic categories are canonically used in a post-yē position, they must move to a position preceding yē. In ch. 4 Krifka’s concept of emphatic assertions will be put to use to determine how the sentence meanings of parametric yē-sentences can be derived and in what way they differ from the sentence meanings of non-emphatic and non-parametric yē-sentences. Here, it will do to know that emphatic assertions combined with parametric yē yield meanings that are indistinguishable from the meanings that one would get if parametric dōu were used instead of yē. In this sub-section I will simply repeat most examples from the immediately preceding sub-section on the relative position of parametric dōu and its interacting foci, but yē will be substituted for dōu.

In contradistinction to the ungrammatical b-sentences of (62) through (65), liàn has not been put in parentheses to prevent the possible and grammatical reading in which yē is interpreted as focusing; these cases have been sorted out in section 2.4.3. I will again take up the issue of the delimitation of use types in section 3.5 below.

(70) Preposed objects (cf. (62)):
  a. Xiāo Wáng (liàn) Ji-RÒU yē bù CHI.
    Little Wang even chicken-meat YE not eat
    ‘Little Wang doesn’t even eat CHICKEN.’
  b. Xiāo Wáng yē bù CHI liàn Ji-RÒU.
    Little Wang YE not eat even chicken-meat
    intended: ‘Little Wang doesn’t even eat CHICKEN.’
  c. Xiāo Wáng bù CHI Ji-RÒU.
    Little Wang not eat chicken-meat
    ‘Little Wang doesn’t eat chicken.’
  d. Xiāo Wáng Ji-RÒU bù CHI.
    Little Wang chicken-meat not eat.
    ‘Chicken, Little Wang doesn’t eat that.’

(71) Negative polarity items/Measure phrases denoting (contextually) minimal quantities in object function (cf. (64)).
    Old Li even 1-CL:speech-unit speech YE not be able to speak
    ‘Old Li couldn’t even say A WORD.’
The sentences in (74) show that the facts of verb-copying with parametric ye parallel those observed with parametric dōu (cf. (67)).

3.3.2 Where parametric dōu or ye must be used: towards the generalization

The most important condition governing the mandatory use of dōu or ye is analogous to the ones discussed in the cases of parametric cái and parametric jiù in sections 3.1.1 and 3.2.1: Whenever a focus that must be interpreted as being of a particular kind precedes the structural position of dōu or ye, dōu or ye must be used. The precise semantic nature of the foci interacting with dōu and ye will only be dealt with in sections 4.3 and 4.4; for our present purposes, it will be sufficient to call most of these foci even-foci. The even-foci in examples such as (61a, a') or (61b, b') are simple cases: If lián ‘even’ is used, dōu or ye must be used.

(75) Obligatory dōu or ye (to be augmented and revised):

Parametric dōu or ye is used if an even-focus precedes the structural position of dōu or ye.

Note that (75) also covers the cases discussed previously in which a canonically post-verbal constituent has moved to, or in which a verb has been copied to, a position preceding the structural position of dōu or ye. As with obligatory cái or jiù, the presence of a lexical element to mark the focus is not necessary, though, for the triggering of the obligatory use of dōu or ye. Just think of negative polarity items like yī-jū huà 'a
single utterance/a word', yìngyuán 'ever', or yǔdàn 'a bit/the slightest bit' as illustrated in (76a-c).

(76) a. Lào Lì  
Old Li

b. Jiù  
old society-ATTR

wō YìNGYUÁN  
me 'a bit'

I ever  
DOU/YE

'NEVER EVER will I forget the sufferings in the old society.'

c. Zhè  
that

YÌ-DIANR  
not at a pity

That not a pity AT ALL.' (RP: 43)

d. Xiăo Wáng  
Little Wang

ji-RÔU  
chicken-meat

YE/dou not eat

'Little Wang doesn’t even eat CHICKEN.'

The fact that the foci in (76a-c) are interpreted as negative polarity items is sufficient to trigger the obligatory use of dòu or yè without any lexical focus marker being present. In a sense to become clear in ch. 4, negative polarity items and lián-foci are semantically very similar: Both types of expressions entail the truth of alternative sentences; therefore, we should be aware at this early point that it is not a surprise to find lián-foci patternering with polarity items. The case of (76d) is different: Jiùròu 'chicken meat' in itself is not a lexicalized negative polarity item, but in this sentence it is interpreted like a kind of negative polarity item that is contextually determined: Most people like chicken meat, and if somebody does not eat chicken meat, this person will probably not like any other kind of meat (see section 4.3.3. on the theoretical foundations of negative polarity). If (76d) is used this way, the use of dòu or yè is in fact as obligatory as if Jiùròu 'chicken meat' were a lexicalized polarity item.

Our preliminary descriptive generalization should be adapted to cover the cases in (76).

(77) Obligatory dòu or yè (to be augmented and revised):

Parametric dòu or yè is used if an even-focus or a lexical or contextual negative polarity item in focus precedes the structural position of dòu and yè.

Apart from the cases discussed so far, the use of parametric dòu or yè is likewise obligatory if a wh-word/indefinite pronominal or a disjunctive predication is used in assertions expressing some special kind of universal quantification (cf. section 2.4.1.F, whence the examples in (78) and (79) have been taken and adapted).

(78) a. Shéi *(yè/dòu) bù hùi guài nǐ who YE/DOU not will blame you 'NO-ONE will blame you.' (AD: RP: 7)

b. Tā SHENME *(yè/dòu) bù shuo. (s)he what YE/DOU not say 'S)he doesn’t say ANYTHING AT ALL.' (AD: Alleton 1972: 66)

c. Lào Zhāng SHENME SHL̀HOU *(yè/dòu) mèi yóu gòng hu 'Old Zhang when YE/DOU not have time 'Old Zhang NEVER EVER has time.'

(79) Bùguàn chèng yù bù chèng, no matter succeed and not succeed nǐ *(yè/dòu) yào gēi wò-ge huí huà you YE/DOU must give I-CL reply 'No matter whether you’re successful or not, you must give me a reply.' (HX: 618)

With our understanding of the function of dòu and yè as it has been explicated so far, we are unable to smoothly integrate the obligatory uses of dòu or yè as witnessed by (78) and (79) into our preliminary generalization. It will be no earlier than after sections 4.3 and 4.4 that we have the results at hand that we need to subsume all of the cases of obligatory dòu or yè under a more elegant generalization. For the time being, the modified generalization in (80) is all we can state.

(80) Obligatory dòu or yè:

Parametric dòu or yè is used if an even-focus or a lexical or contextual negative polarity item in focus precedes the structural position of dòu and yè, or if a wh-word/indefinite pronominal or a disjunctive predication is used in assertions expressing some kind of universal quantification.

3.3.3 Specific generalizations in limited contexts

So far, the main emphasis in the treatment of the distribution of parametric dòu and yè has been on the parallels. We shall now turn to the differences.

The general problem is nicely illustrated by the sentences in (81) through (83). While it is often possible to exchange parametric dòu and yè without a perceivable change in meaning (example (81)), the same is dispreferred or outright impossible in other cases, even if the facts of relative focus position as discussed in the previous sections are not in the
way (examples (82) and (83)): All foci in the following examples precede 
dōu or yē, but still some versions of the sentences are ungrammatical or 
strongly dispreferred.

(81) Tā YÍ-DIĀN R yē/dōu bù nèng dōng.
     (s)he 1-CL:bit YEOU/DOUNOT can move
     ‘(S)he can’t move AT ALL/even A BIT.’ (ad. Alleton 1972: 63)

(82) Tāmen SHÈNME dōu/yē gǎilǐng,
     they what DOUN/YE change.for.the better
     ‘They change EVERYTHING for the better.’ (ad. Alleton 1972: 66)

(83) Tā jùshì hǎo yào QÜ, yē/yē dōu gāi xiǎn jīe-le hūn.
     (s)he even if must go YEOU/DOUNEED should first tie-ASP marriage
     ‘Even if she GOES, she should marry first.’ (ad. Alleton 1972: 78)

As far as I know, instances of such differences in acceptability are noted 
by some authors, but they have never been the subject of any systematic 
investigation. To shed some light on the relevant restrictions, I will first 
look at those contexts in which the use of yē is restricted; a second 
subsection will deal with the contexts in which the use of dōu is subject to 
special restrictions.

A. Restrictions on the use of yē

Folklore in Chinese linguistics has it that in sentences involving some 
kind of universal quantification expressed by a sequence of a 
wh-word/indefinite pronominal and dōu/yē, yē should be used in negated 
contexts, and dōu otherwise. Sentence (82), for instance, perfectly fits in 
with this rule. Alleton (1972: 80f) critically reviews the rule and comes to 
the conclusion that a different story has to be told because counter-
examples as in (84) may easily be found.

(84) a. Zhè-dào tǐ wùlàn zhēn nǐng nán,
     this-CL question no.matter how difficult
     wǒ yē yào gōngxià tā.
     I YE want conquer it
     ‘No matter how difficult this question is, I want to solve it.’
     (cf. Eifring 1995: 170)

b. Nīmén shèi dōu bù yào lǐkāi wǒ.
     you who DOUNOT not must leave I
     ‘None of you may desert me.’ (rp: 19)

Both sentences plainly run against the above rule, because yē is not fol-
lowed by a negation word in (84a), but dōu in (84b) is. Admittedly, the 
large majority of my data confirm that yē and negation words are a good

match in universal wh-word sentences, whereas for dōu I am unable to 
confirm a preference for affirmative contexts.

If one investigates the contexts in which yē may occur together with 
wh-words/indefinite pronominals to express some kind of universal quan-
tification, and if one contrasts them with contexts in which yē must not be 
used, it turns out that negation words and modal verbs license yē. A survey 
of examples with different negation words and modal verbs is given in 
(85) and (86).

(85) a. Wōmen shènme dìxi yē *(bù) zhǐdáo!
     we what exact.detail YE not know
     ‘We don’t know any exact detail!’ (ad. rp: 28)

b. Zhèxiè-ge huìtuì zài zěnme jǐdúhuà
     these-CL bandits again how sly
     yē *(mèi) yǒu bānfǎ dàlǐ le.
     YE not have method deny PRT
     ‘No matter how sly these bandits may be, they won’t have a 
chance to deny what they did.’ (ad. rp: 5)

(86) a. Wǒ shènme-yěng-de shù yē *(hiu/nèng/nènggòu) zhàodǎo.
     I what-kind-ATTR book YE will/may/can find
     ‘I will/may/can find any kind of book.’

b. Wǒ shènme-yěng-de shù yē *(dei/yänggài/yào/xiāng) kàn.
     I what-kind-ATTR book YE must/should/must/want read
     ‘We must/should/want to read any kind of book.’

All of the sentences in (85) and (86) are ungrammatical without the nega-
tion markers or the modal verbs. The only semantic concept to cover 
these cases that I know of is the notion of nonveridicality.19 Veridicality 
was introduced into the linguistics literature by Montague (1969), and 
Zwarts (1986, 1995) and Giannakidou (1997) make use of this and re-
lated notions to develop their theories of polarity licensing in Dutch, 
Modern Greek, and other languages. Definitions of veridicality and 
nonveridicality taken from Giannakidou (1997) are quoted in (87).

(87) Definition: Let Op be a monadic sentential operator. The following 
statements hold:

a. Op is veridical just in case Op p → p is logically valid. Other-
wise, Op is nonveridical.

19 The idea that the reversal of the monotonicity behaviour under negation plays a role 
here is tempting, but it cannot be true: Modals as in (86) have no influence on the 
monotonicity behaviour of the terms involved in the quantificational structure, and still 
grammaticality varies with their presence or absence.
b. A nonveridical operator \( Op \) is averidical just in case
\[
Op \, p \rightarrow \sim p \text{ is logically valid.}
\]

A nonveridical operator is thus defined as in (87c).

\[(87)\] c. \( Op \) is nonveridical just in case \( \sim (Op \, p \rightarrow p) \) is logically valid.

Veridicality is defined here as a property of operators with sentential scope. This property tells us whether the truth of an assertion with a wide-scope operator allows us to conclude anything about the truth or falsity of the embedded proposition. In the sentence I moved to Berlin in 1997, the temporal expression in 1997 is veridical because it is licit to conclude from the assertion I moved to Berlin in 1997 that I moved to Berlin. In contrast to this, may you may swim here is non-veridical because from the fact that the addressee may swim somewhere it is not possible to conclude that the addressee is swimming. It is important to see that nonveridicality allows for the possibility that the embedded proposition is true, but this is not entailed.

Averidicality is special case of nonveridicality. Averidical operators are those sentential operators from which one can conclude that the complement of the embedded proposition is true. Negation is an averidical operator: It is possible to conclude from John doesn’t sleep that it is false that John is sleeping. Note again that this is but a special case of nonveridicality because it also holds that the sentence John doesn’t sleep does not entail that John is sleeping. Applied to the matter of what licenses the use of parametric \( y\) in universal \( w\)-word-sentences, we may state a generalization as in (88).

\[(88)\] Nonveridicality and the grammaticality of sentences with \( w\)-word...\( y\)-strings:
In assertions involving \( w\)-words/ indefinite pronouns conveying the meaning of (some kind of) universal quantification over the domain of the \( w\)-word/ indefinite pronomial, parametric \( y\) may only be used in nonveridical contexts.

This generalization covers all the examples in (85) and (86). From (85a) it does not follow that the subject referents know any exact detail; from (85b) it does not follow that the bandits have a chance to deny; from no variant of (86a) is it licit to conclude that the subject referents will find all books for sure; (86b), finally, does not entail in any of its versions that the subject referents read all kinds of books.20

Let us recall at this point that the generalization in (88) does not just state something about contexts in which \( y\) may be used. It is also a statement about cases in which \( d\) or \( y\) must be used. All sentences in (85) and (86) are ungrammatical if \( y\) is dropped and \( d\) is not used in its stead.

Recall that the nonveridicality restriction of the use of parametric \( y\) only holds for those special cases in which \( w\)-words/ indefinite pronouns or disjunctions interact with \( y\). In the simple contexts of negative polarity items and \( e\)-words as treated in section 3.3.1, \( y\) and \( d\) interchange freely. In other words: In the \( w\)-word cases and in the disjunction cases nonveridicality is a necessary condition for the use of parametric \( y\). But is it also a sufficient condition? (89) and (90) provide evidence to the contrary: Even though non-veridical operators are used, \( d\) must be used, and the use of \( y\) is not accepted by my consultants.

\[(89)\] Tā shuò shènme wǒ dōu\*\( y\) huì dǎyīng de. (s)he say what I DOU\( y\) will agree PRT
’t Whatever he says, I’ll agree to it.’ (Eifring 1995: 147)

\[(90)\] Bi gwān cōng shènme dīfāng dōu\*\( y\) kěyī shāng-\( q\)u. no.matter from what place DOU\( y\) can ascend-go
‘You can ascend from any direction.’ (Eifring 1995: 170)

I have not succeeded in making good sense of these differences in grammaticality. However, I will return to these cases towards the end of section 4.3.4.

B. Restrictions on the use of \( d\)
In (83) above we have already seen an example in which \( d\) is strongly dispreferred, while the use of \( y\) is possible and, in fact, obligatory; it is repeated in (91).

\[(91)\] Tā jìshí yào QU,\( y\)???\( d\) gāi xiān jiē-le hūn. (s)he even.if must go YE\( y\) should first tie-ASP marriage
‘Even if she GOES, she should marry first.’ (ad. Alleton 1972: 78)

More examples of the same kind are listed in (92).

20 Note that deontic modal such as dēi ‘must’ and yōnggāi ‘should’ in (86) are classified as non-veridical here although they are analyzed as being related to necessity operators. Logical necessity is of course veridical, but deontic necessity as expressed by yōnggāi ‘should’ is not. From the fact that my little nephew has to do his homework, I am not allowed to conclude that he is actually doing his homework. On this point see also the discussion in Kratzer (1991a) and in Giannakidou (1997: 112ff).
Apart from the shaky cases just discussed, we find two kinds of sentences in which ye is not used in concessive sentences. In the first kind, hái(shi) 'still', or some other marginal member of the paradigm to which cái, jiù, dōu and ye belong is used. This amounts to saying that in these sentences, the syntactic position of ye must be filled by some filler of the same category which is semantically adequate. This is illustrated in (94), where hái(shi) 'still' occupies ye's position. More on such cases will be said in section 4.5.

BA earrings buy PRT
‘Even though I understood this, I still bought the earrings.’

All the examples in this sub-section in which ye could be used were sentences with nonveridical operators with sentential scope. I have not been able to find a concessive (conditional) sentence in which such an operator was not present.

Since the results of this sub-section are a bit uncertain, I will refrain from stating a descriptive generalization as in the preceding sub-sections.

3.3.4 Triggers and constraints in contrast: parametric dōu vs. parametric ye

Figure 3.1 recapitulates the findings of sections 3.3.1 through 3.3.3. The set labelled PARAMETRIC encompasses all those sentences in which a parametric particle occurs. The DŌU set comprises all those sentences in which the use of parametric dōu is grammatical, the YE set comprises all those sentences in which the use of parametric ye is grammatical. The intersection of DŌU and YE conforms to the cases covered by the generalization in (77) and in sub-section 3.3.3.A: Dōu and ye are freely interchangeable if they interact with an even-focus or a focused negative polarity item, or if they interact with a wh-word/an indefinite pronominal, or with a
disjunction within the scope of a nonveridical operator. The difference of 
\( \text{DOU} \) and \( \text{YE} \) (DOU-YE) comprises all those sentences in which parametric 
\( \text{YE} \) may not be used because no nonveridical operator is present. The dif­ference of \( \text{YE} \) and \( \text{DOU} \) (YE-DOU) amounts to all those sentences in which 
concessivity or concessive conditionality is marked by a \( \text{jiu} \)-subordinator 
(see section 3.3.3.B). The problematic cases assembled in (89), (90), 
(92c/d) and (93) have been neglected in Figure 3.1.

3.4 THE CATEGORIZATION PROBLEM: 
\( \text{CAI, JIU, DOU AND YE AS AGREEMENT PARTICLES} \)

The task of determining the part of speech to which parametric \( \text{CAI, JIU, DOU} \) and \( \text{YE} \) belong is a difficult one. It is obvious that these words are 
neither verbs, nor nouns, nor adjectives, and they are not prepositions, 
either. What we are left with are those classes whose boundaries are no­
torious for being difficult to define.

In my discussion of the issue I will first review the categorial 
assignments that have been proposed in the literature of the past three decades, 
and I will give reasons why these assignments should be refuted. I will go 
on to demonstrate why I think that it is justified to analyze the general 
function of parametric \( \text{CAI, JIU, DOU} \) and \( \text{YE} \) as morphosyntactic. It goes 
without saying that some explanation is needed to apply terms of mor­
phosyntax to a language that is known for its scarce or absent (in­
flectional) morphology, and to establish information-structural categories as 
structures that may trigger morphosyntactic expressions. Supporting 
evidence is provided by the discussion of phenomena in other languages 
that serve to make the proposed Mandarin system appear less unlikely.

3.4.1 Previous categorial assignments

The following terms may be encountered in the literature when it comes 
to determining the part of speech and the overall function of parametric 
\( \text{CAI, JIU, DOU} \) or \( \text{YE} \): 'Backward-linking adverb', 'backward-linking con­
nective', 'quasi-correlative', '(focus) adverb', 'focus particle', or 'head 
of a functional phrase'.

The term 'adverb' is the one that has the longest tradition, and also the 
one that can be discarded most easily for the reason of being more or less 
vacuous. Alleton (1972) chooses to categorize \( \text{CAI, JIU, DOU} \) and \( \text{YE} \) as 
adverbs, but she is well aware that this is mostly a definition \textit{ex negativo}: 
In her grammatical framework, everything that is not a predicate (i.e. a 
verb) or (part of) a complement thereof is an adverbial; among these, 
the adverbs proper may be distinguished (Alleton 1972: 22). Our elements 
belong to her sub-class of markers of specialized relations ('marques de 
relations spécialisées'). Other researchers who use the term 'adverb' 
include Li & Thompson (1981), Paris (1981, 1985) (with some reserva­
tion) and, most recently, Zhang (1997). Adverbs have always been the 
dustbin categories in parts-of-speech assignments in the history of lin­
guistics. This usually makes the set of elements for which the label 'ad­
verb' has been proposed a very unwieldy category. The only thing that 
one can conclude for sure from this characterization is that we are not 
dealing with nouns, verbs, adjectives, prepositions, and probably not with 
articles, either. The adverb solution starts to run into serious trouble 
when we recall the facts of obligatoriness that have been observed at so 
many places in the preceding sections: In many contexts \( \text{CAI, JIU, DOU} \) or 
\( \text{YE} \) may not be left out. This is unheard-of for an alleged adverb, and I 
take this fact as sufficient evidence to give up the whole idea of assigning 
the investigated words to the category of adverbs.

Similarly, the term 'backward-linking (connective)', which is used by 
Li & Thompson (1981) and by Eifring (1995), is not a real help. What it 
does is give a name to the intuition that parametric \( \text{CAI, JIU, DOU} \) and \( \text{YE} \) 
(virtually) always relate back to some prior element. This is also what 
Alleton (1972: 39f) has in mind when she speaks of quasi-correlatives, 
because the correlation is said to hold among the preceding information-
structurally distinguished category, and \( \text{CAI, JIU, DOU} \) or \( \text{YE} \). The problem 
with 'backward-linkage' is that this term is highly non-specific. To give 
some content to it one might assume an anaphoric link between the pre­
ceding trigger elements and \( \text{CAI, JIU, DOU} \) and \( \text{YE} \). This would pave the way 
for two more specific hypotheses: Either parametric \( \text{CAI, JIU, DOU} \) and \( \text{YE} \) 
resemble resumptive (pronominal) elements such as \( \text{therefore, then} \) and 
the like, or they are like subordinating conjunctions such as \( \text{when, since,} \) 
\( \text{because or although} \). The resumptive-pronominal option is tempting, 
because in English translations of pertinent Mandarin sentences these 
words are used very often. There are two problems with this hypothesis. 
First, none of \( \text{CAI, JIU, DOU} \) or \( \text{YE} \) is of a deictic nature the way Indo­
european resumptive pronominals are. This may not be a watertight arg­
ument, but it is suggestive in the light of what we know about the 
historical development of anaphoric elements. Moreover, resumptive 
pronominals of adverbial relations as such are not obligatory, even 
though it may be required that the syntactic position they occur in should 
be filled by some element (cf. forfield uses of resumptive deictic connec­
tives such as \( \text{deswegen} \) 'therefore' in German and analogous phenomena 
in other Germanic V2-languages). The final blow for the resumptive 
hypothesis comes from the fact that undoubtedly anaphoric or deictic
elements may be used in relevant sentences, and they are the ones to be translated by resumptive elements such that cāi, jìu, dōu or yē are left dangling without a plausible equivalent in the English translations. Examples for cāi, jìu and yē are given in (95); the resumptive elements have been underlined.²¹

(95) a. Jiǔshí yīnwèi tāmen Huāng jiā bù bāitài, simply because they Huāng family not pray suǒyǐ tāmen jìu ěrzǐ cāi huì chī chēbāo, therefore they family son CAI could occur car accident ‘It’s only because the Huangs haven’t joined the religious ceremony that their son could have this accident.’ (rp: 34)

b. Yīnwèi dìe yězǐ bù yòng dōng nàjiùn, because fold sheet not need move brain suǒyǐ jìu zài nàjiùn-lijí zǒu qǐ, therefore jìu at brain-in go chess ‘Since you don’t need to use your brain to fold sheets of paper, I make chess moves in my brain.’ (hx: 673)

c. Suǒshuò bù néng jǐ cāi, although not can become rich què yē māimài xīnglóng, nevertheless YE business flourish ‘Even though it won’t make me rich, my business is getting along fine.’ (hx: 531)

If the underlined words in (95) have a resumptive anaphoric function, the same function is not available anymore for parametric cāi, jìu, dōu and yē.²²

Our second rough hypothesis to explicate what ‘connective’ may be taken to mean has been to equate the function of cāi, jìu, dōu and yē with subordinating conjunctions. The problem here is that the words under scrutiny are not constituents of the subordinate clauses or phrases, unless one would assume a very rich apparatus in syntax; they are, quite to the contrary, constituents of the embedding clauses. I am not aware of any empirical evidence to support a rich syntactic derivation with an underlying structure in which the subordinate clause and the alleged ‘connector’ start out as a single constituent.

²¹ It is difficult to find a good pertinent example for parametric dōu. I do not know why this is so.
²² For a brief discussion of suǒyǐ’s lexicalization process leading to its present-day use as a resumptive element, cf. Bisang (1992: 205f).

A general difficulty for any approach which aims at assigning cāi, jìu, dōu and yē to some class of connectives is the indisputable and very general sensitivity of these elements to information-structural categories. Large portions of this study are devoted to demonstrating that generalizations regarding parametric cāi, jìu, dōu and yē must necessarily make reference to notions such as ‘focus’ or ‘C-topic’. It is not a general property of conjunction-like elements to restrict their range of application to certain information-structural categories — although this may, with certain words, actually be the case. The difference here is that parametric cāi, jìu, dōu and yē are all information-structurally sensitive.

A final argument against either version of the connector analysis may be derived from the fact that cāi, jìu, dōu, and yē are insensitive to whether the “connected element” is a core argument of the predication or some peripheral element, be it a clause, or just a non-propositional adverbial. It is not a property of core arguments or non-propositional adverbials to require “connecting” words to be licensed in a sentence. For this reason, connector analyses, whatever their specific shape may be in the end, are not just too non-specific, they are clearly inadequate.

Terms like ‘focus particle’ or ‘focusing adverb’ as used in Biq’s (1984, 1988) and Lai’s (1995, 1996, 1999) studies have the advantage of emphasizing the information-structural import of parametric cāi, jìu, dōu and yē. Nonetheless, they are apt to evoke false ideas about analogies with elements in other languages. Prototypical focus particles in English include only or even, but only and even have properties that are very different from those of parametric cāi, jìu, dōu or yē. First, a grammatical sentence in which only or even is dropped may become ungrammatical.²³ We have seen abundant evidence that in Mandarin precisely this is often the case. Sentences tend to require the use of cāi, jìu, dōu or yē. Second, Mandarin does possess focus-sensitive expressions which behave like English focus particles, and these expressions are used alongside with cāi, jìu, dōu and yē. Four illustrative sentences are listed in (96). Again, the words under discussion have been underlined.


²³ This generalization does not hold for only-if-conditionals if the subordinate clause precedes the matrix clause: [*Only] if it rains does she take her umbrella along. The inversion rule at work here is irrelevant to our concern, because its application is conditioned by inherently negative constructions, and not by all focusing phenomena.
can be explained. Nonetheless, I think that the recent syntactic analyses of the focus constituents and the functional heads need to enter into a checking relation, the obligatory presence of both in so many sentences discussion may be put on a more solid basis:

like with certain data, they have a big advantage as soon as we compare them with the other category assignments discussed so far. By grouping words like a single functional phrase. More on the syntactic furtherings of this kind going into the details here, we may say that functional phrases constitute the backbone of the syntactic organization of sentences. Within this the-pre-specified for the same feature must move to the specifier position of a constituent containing a focus and parametric the X-bar-structure that

or must belong to a different class of words.

In the most recent generative syntactic tradition, it has become customary to treat parametric cāi, jiū, dōu and yē as functional heads (cf. Gao 1994, Shyu 1995 or parts of the data covered in Lin 1996). Within Chomsky’s Minimalist Program (Chomsky 1995) this is to say that cāi, jiū, dōu and yē head a functional phrase, i.e. a phrase which, without meaning anything by itself, makes it possible for other elements that are specified for matching features to occur in a given sentence. Without going into the details here, we may say that functional phrases constitute the backbone of the syntactic organization of sentences. Within this theory features need to be “checked”, i.e. some other element which comes pre-specified for the same feature must move to the specifier position of the X-bar-structure that cāi, jiū, dōu and yē project, and then the head and the specifier are checked for identical feature settings. In our context this means that (a constituent containing) a focus and parametric cāi, jiū, dōu or yē must be set apart from the other uses of each character. The obligatoriness argument was important in the course of that justification: If, in the presence of some other element, speakers are forced to choose from a paradigm of functional elements, then we are dealing with a grammatical(ized) phenomenon. The major consequences of the grammaticalization argument, and of the functional-phrase analyses thus coincide.

3.4.2 Parametric particles as focus-background agreement markers

To develop my own proposal for a more specific and less theory-dependent categorial hedging of parametric cāi, jiū, dōu and yē, I would like to start out from a hypothetical case.

Suppose you investigate the occurrence restrictions of a certain set of verbal endings in some language AM. What you find is that if foc of specific kinds – and you are able to characterize these kinds satisfactorily – precede the verb in AM, then one of these verbal endings must be used. In the end you have as many semantically and formally justified focus classes as there are members in the set of verbal endings. What kind of analysis would you develop for this state of affairs?

An unorthodox, but nonetheless reasonable idea would be the following: AM has focus-background agreement. Since the locus of agreement on the clause level is the verb, the locus of focus-background agreement is likewise on the verb. Depending on what kind of focus the focus is marked for, the agreement marker on the verb varies. (Note that to say that AM has a (semantic) scope-marking system will not be quite sufficient, because what determines the form of the alleged scope-marker concerns the type of focus, and not the type of scope.)

are somewhat precipitate. What they do is propose a highly specific syntactic implementation for a problem whose general nature is but poorly understood. What do we know if we know that cāi, jiū, dōu and yē are functional heads? We know that – varying with the individual theoretical stance of the researcher – they belong in the same general class as determiners, tense or aspect morphemes, or heads of phrases integrating thematic relations into the structure. This is about as heterogeneous a collection of elements as the one usually covered by the term ‘adverb’. For a more general view of Mandarin grammar, this only allows us to conclude that we are somehow dealing with elements belonging to the core of Mandarin grammar. The same result has been arrived at in section 2.5. There, I have discussed in what respect it is legitimate to treat parametric cāi, jiū, dōu and yē as independent linguistic signs that may be set apart from the other uses of each character. The obligatoriness argument was important in the course of that justification: If, in the presence of some other element, speakers are forced to choose from a paradigm of functional elements, then we are dealing with a grammatical(ized) phenomenon. The major consequences of the grammaticalization argument, and of the functional-phrase analyses thus coincide.

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Needless to say, the facts of this thought experiment have been taken from Mandarin, or at least from a language that is identical to Mandarin with regard to our research topic, except that it has a richer agglutinating morphology than Mandarin: Our hypothetical Agglutinating Mandarin expresses by way of verbal endings those things that are expressed by the words cǎi, jǐu, dōu and yě in isolating Mandarin. But what is this storytelling good for? Mandarin is not an agglutinating language, and information-structural categories are not among the candidates one would think of if asked for typical verbal agreement categories. What I would like to show is that, in spite of the truth of these two objections, an analysis of parametric cǎi, jǐu, dōu and yě in terms of phrase-level agreement is viable, and that neither of the two objections that have been raised are as solid as they may seem.  

Let us first turn to the exotic status of information-structural categories receiving verbal agreement marking. In fact, some languages are attested in which information-structural categories trigger verbal agreement (see section 6.2.3). One of these languages is Yukagir, a Uralic language spoken along the Kolyma river which has been claimed to be a Uralic language, but no consensus on this matter has been arrived at so far. All researchers who have worked on this language seem to agree on the currently relevant point (cf. Collinder 1940, Harms 1977, Krejnović 1982 or, seemingly detached from this tradition, Comrie 1981: 258ff). In Yukagir past tense sentences, verbal inflection varies with the category of the element in focus. Subject focus with intransitive verbs triggers the verbal ending -l, and except for a plural marker -me- in the 3rd person plural, no other agreement markers are used such that -l is usually the only ending in these cases. Object focus triggers verbal endings amalgamating information-structural features with person and number features. Subject focus with transitive verbs receives verbal zero-marking. Verb focus triggers the prefixing of me- on the verb stem. The focused nominals themselves are marked by -le- or -ek, with the exception of cases of subject focus with intransitive verbs. In such cases neither the nominal nor the verb display any overt agreement marking. (97) presents five examples, one each for the following types: a) intransitive verb and subject focus; b) intransitive verb and verb focus; c) transitive verb and subject focus; d) transitive verb and object focus; e) transitive verb and verb focus. All examples have been taken from Comrie (1981: 260f).

(97) Yukagir

a. ['Who ran away?']
   ile-leŋ kótege-l
   deer-FOC run.away-SUBJ.FOC/ITR
   'THE DEER ran away.'

b. ['What did the deer do?']
   ilen me-kótege-f
   deer VERB.FOC-run.away-3S
   'The deer RAN AWAY.'

c. ['Who shot (the deer)?']
   met ai
   I shoot
   'I shot.'

d. ['What did you shoot?']
   met ile-leŋ ai-meŋ
   I deer-FOC shoot-OBJ.FOC/1S
   'I shot THE DEER.'

e. ['What did you do to the deer?']
   met ile mer-ai-ŋ
   I deer VERB.FOC-shoot-1S
   'I SHOT the deer.'

This system is, of course, highly peculiar, and it is difficult to find any direct parallels with the Mandarin system. Specifically, Yukagir verbal agreement varies with the syntactic function and the categorial status of the focus constituents: Subject foci and object foci of transitive verbs are treated differently, and verbs in focus are set apart from nominals in focus. In the Mandarin system analyzed here, the verb must either not be focused in the relevant construction (the case of cǎi and jǐu), or it may, by way of verb-copying, partake in the system of focus-preposing, but then it patterns with non-verbal constituents in focus (the case of dōu and yě, cf. examples (67) and (74) of section 3.3.1A and C). What the focus marking within the verbal complex depends on is not the syntactic function of the nominals in focus, but rather the categorial type of the focus (i.e. whether an only-focus, an even-focus, etc. is related to; see the following chapter for details). Still, there is also a general parallel: Both in Yukagir and in Mandarin, categories that must be analyzed in terms of

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25 I am indebted to Dejan Matić for directing my attention towards the Yukagir case.
focus-background structure trigger the obligatory use of specific elements in the verbal inflectional system or in a position adjacent to the verbal complex.

What we have now is a parallel concerning the grammaticalized expression of some information-structural category: Agreement that is information-structurally governed does occur in natural language. What remains is our second objection: Parametric cāi, jiù, dōu and yě may well be sister constituents of some higher verbal projection, but this is not the same as an inflectional category: Verbal inflection should at least agglutinate. This is exactly what Cantonese -dak ‘only’ does according to Tang’s (2002) analysis. Tang proposes to analyze -dak as a verbal suffix: Although it is compatible with all kinds of sentential aspects (states, activities, achievements, accomplishments), it must not be combined with any verbal aspect suffix; cf. his sentence in (98).

(98) Cantonese
Keoi se(*-zo) -dak (*-zo) LOENG-PIN MAN.
he write-ASP-only -ASP 2-CL article
‘He wrote only TWO ARTICLES.’

Even if a thorough analysis of the facts revealed that -dak – as well as the aspect markers – should be assigned to the class of clitics, one possible conclusion to be drawn from (98) is that -dak occupies a syntactic slot usually available for verbal aspect categories in Cantonese. Moreover, it has repeatedly been claimed that many (Chinese) clitics are really phrasal affixes (Klavans 1983, 1985, Anderson 1992, Liu 1995). Another interesting property of -dak is that it favours monosyllabic verb stems. This fact falls into place when we recall that Chinese dialects in general have strong prosodic constraints at work which often prescribe or strongly favour disyllabic word forms: If verb forms are required to be maximally bisyllabic, and if verbs preceding -dak must be monosyllabic, -dak may justly be argued to be part of a disyllabic phonological word.27

Again, Cantonese and Mandarin do differ: Cantonese -dak is an only-word phonologically associated with verbs; however, it does not merely reflect an otherwise established focus interpretation, it actually estab-

27 Although this is not immediately relevant here, it may be interesting to note that -dak is used in virtually all those contexts in which analogous Mandarin sentences would have cāi and a post-verbal focus. It does not seem too far-fetched to reduce the difference among Mandarin and Cantonese in this respect to different ranges of verb movement (if one aims at a syntactic analysis at all) Cantonese verbs in -dak-sentences climb so high as to reach the position immediately preceding -dak, whereas Mandarin verbs stay below cāi (jiù, dōu, yě) in the tree.

lishes it. The interesting Mandarin cases were, for instance, those in which an independently only-marked focus (e.g. by the pre-focus use of zhīyě ‘only’) triggered the use of cāi on the left edge of the predicate. What Cantonese does serve to show is that elements relevant to information-structural components of meaning may be involved in what Anderson (1992) has – somewhat paradoxically – come to call ‘the morphology of phrases’ (if -dak is a clitic), or that such elements may even partake in word-formation or inflection (if -dak is a real suffix).

At this point it is about time to assess all the facts collected concerning the categorial assignment of parametric cāi, jiù, dōu and yě. Here is a summary of the properties that have been discussed in this section.

(99) a. Parametric words are not adverbs, at least not on a reading of the term ‘adverb’ that could be characterized in non-negative terms.

b. Parametric words are neither subordinators, nor are they resumptive elements.

c. Parametric words are not focus particles because, even though they are sensitive to information-structure, they only relate to otherwise established focus readings instead of triggering them themselves.

d. Parametric words are function words, i.e. they figure dominantly in the grammatical organization of sentences. This has led to their classification as functional heads in recent generative grammar. In itself and in theory-neutral terms, this does not mean very much, because functional heads are an extremely heterogeneous class.

e. Parametric words may in most cases not be dropped, i.e. their use is not subject to speakers’ choices. This underpins their grammatical nature.

f. There are languages (among them Yukagir; for others see section 6.2.3) in which verbal agreement relates to information-structural categories.

g. There are dialects of Chinese (or at least one such dialect exists, namely Cantonese) in which function words involved in the encoding of focus types partake in morphological processes, or at least in what may be called ‘wider morphology’, viz. phrase-level cliticization.

If we take all of this together, and if we take into account that Mandarin is an isolating language in which syllables do not fuse except for extremely limited cases of derivational word formation, the overall function
of parametric cài, jiù, dòu and yē is as close to verbal inflection as a
language like Mandarin could possibly get to. A different option which
Mandarin does not make use of would be to move verbs to a higher posi-
tion in the syntactic structure such that the facts would syntactically re-
semble the Cantonese dok-case (cf. footnote 27). Note that parametric
cài, jiù, dòu and yē must never be stressed if they are obligatory. This is
a consequence of their phonological dependence on the immediately adja-
cent verbal category. (100) is the solution that I would like to propose for
the problem of what the overall function of parametric words is, and
what class of elements they belong to.

(100) Parametric cài, jiù, dòu and yē are semi-clitic function words or
particles. They syntactically combine with a high functional pro-
jection above the verb that still belongs to the larger functional
verbal domain; Shyu (1995) assumes this phrase to be an aspec-
tual or a non-epistemic modal phrase.
The function of parametric particles is to reflect within the verbal
domain the type of focus which precedes the verbal domain and
which has otherwise been determined to be a focus of a particular
kind.
Inasmuch as the verbal domain is equated with the background of
the relevant focus-background structure, parametric cài, jiù, dòu
and yē are agreement markers. Foci of specific kinds with specific
morphosyntactic features agree with their backgrounds; the syntac-
tic carrier categories of the background function are cài, jiù, dòu
and yē’s sister-constituents.

Admittedly, postulating overt focus-background agreement for Mandarin
will probably seem unattractive to many readers. Such an agreement
relation inflates the category bag to be taken care of even further, and it
is by no means clear to me how Mandarin focus-background structures
and Mandarin syntactic structures can be mapped in every single case.
But readers who are suspicious about the agreement claim need to say
what they propose instead: I think I have shown that the usual run-of-the-
mill analyses for focus-background phenomena simply do not work for
parametric cài, jiù, dòu and yē, and the traditional categorizations as
subordinators or connectives have likewise been shown to be inadequate.

Having presented the defensible part of my category discussion I would
now like to turn to its more speculative portion. The main thread will be
taken up again in the following section. The idea here is to subsume the
focus-background agreement as proposed above under a more general
subject-predicate metaphor. Marty’s (1897) distinction among grammatic-

3.5 REVISITING THE NON-PROTOTYPICAL CASES
The categorial solution developed above works beautifully for all those
sentences in which an overtly marked focus precedes the structural posi-
tion of our agreement markers. This is demonstrated again in (101)
(=96)).
The underlined focus-sensitive expressions force specific interpretations onto their respective foci. The semantic details of these interpretations are discussed in the following chapter. Cái, jiù, dōu or yē have to occur on the left edge of the main clause predicate, and by now I have justified why I think this should be considered a kind of agreement marking. An analogous solution for sentences as in (101') is less obvious, but also possible.\textsuperscript{28}

\begin{align*}
(101) & \text{a. Zhiyǒu ziī-zhōng shū Lǎo Wáng *cái māi-guo.} \\
& \text{only this-CL:kind book Old Wang CAILAI buy-ASP} \\
& \text{‘Old Wang has bought only THIS kind of book before.’}
\end{align*}

\begin{align*}
(101) & \text{b. Zhi-yuò Nǐ Lǎi, wǒ *jìù qù.} \\
& \text{only-must you come I JIU go} \\
& \text{‘If YOU COME, I’ll go.’}
\end{align*}

\begin{align*}
(101) & \text{c. Liǎn TĀ *dōu hui lái.} \\
& \text{even (s)he DOU will come} \\
& \text{‘Even (S)HE will come.’}
\end{align*}

\begin{align*}
(101) & \text{d. Jīshì Nǐ Lǎi, wǒ *yē bù hui qù.} \\
& \text{even if you come I YE not will go} \\
& \text{‘Even if YOU COME, I will not go.’}
\end{align*}

The sentences in (101) and (101') are identical except that in (101') no focus-sensitive expressions determining the focus interpretations are used. Given these conditions, it may seem attractive to consider cái, jiù, dōu and yē focus markers. It has, on the other hand, been shown that this analysis is impossible for cases like (101), and since we are probably not aiming at an account that postulates ambiguity, it will be preferable to

\textsuperscript{28} Comparable data have already been discussed in (1) and (2) in section 3.1.1, but there the argument was limited to cái-foci.

\textsuperscript{29} Those sentences in which the same appeared to be true of jiù, dōu and yē have been categorized differently in sections 2.2.5, 2.3.3 and 2.4.3.
analogous foci preceding cāi. A second reason is constituted by the fact that the pre-cāi position of foci and the post-cāi position of interacting foci can be captured in independent terms: Any focus that can move at all, irrespective of cāi, must do so in the presence of cāi (see section 3.1.2.B). If the only reason to disregard the cases with post-verbal foci were the fact that they do not fit into my descriptive system, the whole classification of cases would - for justified reasons - run the risk of being called ad hoc.

What, then, should be done about sentences in which parametric cāi precedes its interacting focus? One way out would be to give the argument firmer syntactic foundations and retain the uniformity claim. One might say that the focus in (102) actually does, on some level of derivation, precede cāi, and that this is the level of representation where things really matter. The ungrammaticality of the overt focus markers in (102) could then be accounted for independently. In today's branches of generative grammar subscribing to the ideas of Chomsky (1995) the relevant level of representation would be a post-spellout level. The question immediately arising is: Why should the focus in (102) move at all? In current generative grammar movement is a highly constrained mechanism, and things only move as a last-resort option, i.e. in order to prevent derivations from crashing. The need to check features triggers movement, and features get checked in checking configurations, i.e. by way of specifier-head agreement. Both Shyu (1995), for dōu, and Zhang N. (1997, 2000), for cāi and dōu, develop analyses of this kind. However, all of their machinery just serves to shovel the problem to a less obvious place. The difficulty for both accounts arises from the fact that orthodox Minimalism matches overt movement with the feature checking of strong syntactic features, while covert movement is matched with the feature checking of weak syntactic features.

One possible consequence for our problem is to say that, although the interpretations of the foci do not differ, the syntactic features must differ in strength: Whenever the focus overtly moves to a pre-particle position, strong features are involved, and whenever the focus is behind the particle on the surface, a weak feature is involved. This is the road Zhang takes, and she claims that feature strength is determined by the presence or absence of some other feature or some other element (see section 3.1.2.A). Without going into the details of Zhang's analysis here it is easy to see that her post-lexical feature-strength determination is quite a dreadful weapon - it is probably strong enough to wipe out a lot more than just the problem at hand. As long as the idea of triggered feature strengths is not constrained any further, it does not minimize our problem.

The other possible consequence - and it, too, has been reported before - would be to say that in all those cases in which foci do not occur to the left of cāi or yē, feature checking is not required, and a completely different account is needed. This would probably be Shyu's (1995) choice, but this is just an extrapolation from the treatment bare post-verbal foci receive in Shyu's study (op. cit.: 68 f). Shyu claims that, apart from a feature-driven focus system, there exists a second phonologically driven focus device. Within the T-model of syntax with the phonological part of the derivation branching off at spell-out, this does clear the way, but if we apply it to our problem, we are left with the puzzling observation that it is one and the same phonological shape of a focus-sensitive device (namely cāi) which is involved in the derivation of some feature-driven structure in some cases, while it is involved in the derivation of a phonology-driven focus-background structure in others. Again, this is not satisfactory.

To sum up we may say that it is difficult to make a decision concerning the treatment of cases in which cāi precedes its focus because the results arrived at so far point into opposite directions. For one thing there is the kind of evidence favouring a uniform treatment: (i) the identical interpretation of the interacting foci in pre-cāi positions and in post-cāi positions; (ii) the predictable and uniform distribution of post-cāi foci and pre-cāi foci. The facts pointing in the direction of a homonymy solution include at least the following argument: Since the other agreement particles jiù, dōu and yē require their agreement triggers (i.e. their interacting foci) to precede them, the same should be true of cāi; the only elaborate syntactic account to ensure a covert pre-cāi position for foci that occur post-verbally on the surface (Zhang N. 1997, 2000) makes use of a theoretical device that is probably too powerful; therefore, we are left without a plausible account which could syntactically assimilate the post-cāi foci to the pre-cāi foci. It seems we end up without any syntactic account to solve this problem. Still, I think that an analysis treating both cāi-cases in a basically identical fashion should be given precedence over a homonymy account, simply because both a distributional argument (complementary distribution) and a semantic argument (identical meaning) exist to support this claim. One might speculate now whether the different relative positions of cāi and its interacting foci will, one day, give rise to a split, but this would clearly be a future development.
This chapter will deal with the semantic types of quantification over domains of alternatives that each of parametric cài, jiù, dōu and yē is connected with. It thus concentrates on facts that result from the semantic core of the system proper, and not on its (morpho-)syntactic interactions. For issues relating to such exterior facts, the reader is referred back to ch. 3. The interaction of outer negation with existential or universal quantification over domains of alternatives yields the four classical types of quantification, and each single type of quantification over focus alternatives is associated with one of the words examined.

I will discuss cài and jiù separately (sections 4.1 and 4.2), while the discussion of dōu and yē will again be merged (section 4.3). The general design of the major sections will proceed according to the following schema. First, previous accounts of the focus-semantic function of parametric cài, jiù, dōu or yē are reviewed. Then my own proposals are introduced, and I will illustrate them with some suggestive examples. In the following sections the empirical coverage of each proposal is extended step by step so as to cover all possible contexts at the end of each major section. Section 4.4 will check whether the overall system emerging from the postulated functions of the parametric words can be tracked down in certain testing configurations. Before concluding this chapter I will give a sketchy account of hǎi and zài, two further words that should be included in the paradigm of parametric words in Mandarin (section 4.5).

4.1 THE FUNCTION OF PARAMETRIC CÂI

4.1.1 Previous analyses of the function of parametric cài

Previous attempts at pinning down the meaning contribution of cài vary along two major dimensions. The first dimension concerns its interaction with scales: Does each and every occurrence of cài have to be interpreted with respect to some semantic or pragmatic scale such that higher values on that scale are excluded as possible alternative values to the focus value? Or is this not a stable property of cài-sentences? Among the analyses which make reference to scales, two sub-groups may be distinguished: Either temporal scales are identified as prototypi-
cal of all interpretations of sentences with cāi, or scales of different kinds may be claimed to be involved. The second dimension along which analyses vary relates to the theoretical status which is assigned to (the refutation of) discourse assumptions: Does cāi refute wrong assumptions of discourse participants by way of an in-built lexical property, or is the refutation of a wrong assumption just a pragmatic phenomenon that is derivative of something else? I will briefly review each of these possible positions in order to justify the position which I want to take in the following: Cāi does not necessarily relate to a scale, and the rejection of a wrong assumption is not part of the semantic stock of cāi, either.

The most specific analysis of cāi’s semantics has been proposed by Lai (1995, 1996, 1999). Lai claims that cāi (not just parametric cāi, but all uses of cāi) presuppose[s] a change of state of the truth value of a proposition and [...] this change happens at a different point from where it is expected to happen", namely, at a later point in time, or after a higher point on some scale has been reached (Lai 1999: 625). Lai thus subscribes to the position which assumes a necessary interaction with a scale. The analysis is somewhat unspecified concerning the question whether temporal scales are basic or prototypical, and only relate metaphorically to other scales (e.g. informativeness), or whether different kinds of scales are mutually unrelated possible instantiations of a more general type of scales. The account is largely based on work on the semantics of German erst ‘only...so far, not until’ (König 1979, 1991a, Lübner 1989). For this line of analysis to apply smoothly to the Mandarin data, one major condition would have to be fulfilled: Just as in the German sentence (1) with erst ‘only...so far’, the Mandarin counterpart (2) with cāi would implicitly have to make reference to a (temporal) scale.

(1) **Paul hat erst DREI Äpfel gegessen.**
Paul has only.so far 3 apples eaten
‘Paul has only eaten THREE apples so far.’

(2) **Zhāngsàn cāi chè-le SÁN-ge pǐngguó.**
Zhangsan Cāi eat-ASP 3-CL apple
‘Zhangsan only ate THREE apples.’ (Lai 1999: 640)

Lai claims that the Mandarin sentence is interpreted in accordance with this condition, i.e. the translation given for (2) is ‘Zhangsan ate only three apples so far’. This is positively contrary to fact. Lai herself, at a point of the argument where scales are not the matter at issue, translates a similar sentence without reference to a temporal scale (Lisi cāi xié-le yì-fēng xīn ‘Lisi only wrote a letter’, Lai 1999: 636). We may conclude that refer-

ence to temporal scales is not a necessary component of the interpretation of sentences with cāi. If temporal scales are not always relevant, there could still be other kinds of relevant scales. Paris (1981) assumes interaction with scales of some kind, such that cāi excludes values that rank between the asserted value and another contextually salient alternative value. From a theoretical point of view, it is not very desirable to assume a highly unspecific, but semantically entrenched relatedness of cāi to some kind of scale which may be either semantic or pragmatic in nature. If possible we should dispense with rich semantics like this. Fortunately, it is fairly easy to demonstrate the complete independence of cāi from scalar facts. I will try to do this with the examples in (3) and (4).

(3) **Xíàowáng chè SÁN-ge pǐngguó.**
Little Wang eat 3-CL apple
tā cāi néng jīnrú chéngbāo.
(s)he Cāi can enter castle
‘Only if Little Wang eats THREE apples can he enter the castle.’

(4) **Xíàowáng CHÉI-LE pǐngguó.**
Little Wang eat-ASP apple
tā cāi néng jīnrú chéngbāo.
(s)he Cāi can enter castle
‘Only if Little Wang HAS EATEN APPLES can he enter the castle.’

At first glance, (3) appears to be a clear case of a sentence in which cāi must relate to a scale, namely a scale of numbers of apples eaten by Little Wang. This sentence may be plausible in some fairy-tale context in which Little Wang cannot get into the castle without eating three magic apples first. I still claim that in this example cāi does not necessarily relate to a scale. Of course, a scale is involved in the reading of (3) in which eating one or two apples would not be enough, but eating a fourth magic apple would do no harm. Now imagine a situation in which eating exactly three apples is the open sesame. Eating two apples is not enough, but even nibbling at the fourth will likewise keep Little Wang

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1 Paris’ semantic analysis of cāi boils down to mere complement exclusion (Paris 1981: 281ff). In cases in which reference to scales is made, Paris remains unspecific about how much of the scalar interpretive apparatus is really contextual, and how much forms part of the semantics of cāi. Upon reading the scalar reasonings (pp 269–273), one gets the very strong impression that in some uses of cāi, reference to scales is taken to be an in-built property of cāi.

2 Long discussions have been devoted to the question of whether lower or higher alternative values are excluded in cāi-sentences. These (pseudo-)issues will be dealt with in section 4.1.3. What is of interest here is just the general point of scales interacting with cāi.
out. In this scenario the condition to eat exactly three apples is as categorical as it could be, and the fact that a number is involved is irrelevant. Under these conditions (3) is still a perfect sentence. Now turn to (4). The most natural reading of (4) is one on which Little Wang has to find out what will open the castle's gate for him. He has tried all sorts of things but the only thing that will help is eating apples. No scale is involved in this reading. But now imagine the castle is secured by a triple mechanism: You first have to kill a dragon, then fight against some evil enemy, and only then will eating apples open the gate for you. In this case just eating apples will not do, this action will only help if it follows the killing and the fighting. An implicational scale of preconditions to enter the castle is established contextually. In such a scenario (4) is still appropriate. So we have two sentences, one of them favouring a reading in which reference to a scale is made, the other one favouring a reading with no scalar component. Without changing any elements of the sentences the readings may flip-flop if the embedding contexts change. This seems to me to be sufficient evidence for the claim that the use of cāi is independent of, but compatible with, phenomena relating to scales. Researchers who support the same general claim include Alleton (1972) for those cases in which the interacting focus precedes cāi, Biq (1988) and Eifring (1995). How exactly this interaction can be captured will be the matter at issue in section 4.1.3.

The second dimension of variance among previous approaches to the function of cāi has to do with the theoretical status that is assigned to the refutation of a wrong assumption. Biq, in the second version of her analysis (Biq 1988: 86), and Lai (1995, 1996, 1999) both state explicitly that the excluded alternatives relevant to the interpretation of cāi-sentences amount to wrong discourse assumptions; i.e. by way of uttering a sentence like (3), the assumption that eating two apples may open the gate for Little Wang, which may have been held by the addressee of (3), is refuted, and the correct assertion is introduced into the discourse. Although neither of the approaches is fully explicit, one may tell a difference of implementation among the two: Biq treats the expectedness of alternative values as a sufficient condition of their non-equivalence with the asserted value, whereas Lai must assume something like a predicate of expectedness operating on the non-asserted alternative propositions. As I will try to show below, this kind of expectation is probably not the right notion to generalize over the excluded alternatives. Still, to see where the differences among the two approaches and the shortcomings of each approach lie, I would like to look at both implementations in some detail. The main line of argumentation will be taken up again in the paragraph which follows example (7).

Biq's analysis of the meaning of cāi reads as follows:

(5) cāi (S') = P(K) & ∀Y[P(Y) & expected(Y) → Y ≠ K], K ∈ D, Y ∈ D

S' = the 'sentence' combined with C[cai]

P = the relevant properties ascribed to the domain of quantification
K = the asserted value
Y = any member of the domain of quantification
D = domain of quantification

She paraphrases (5) as '[(5)] says that when C[cai] combines with a sentence, K is asserted as the value which has the relevant defining properties chosen from the domain of quantification, and K is not one of those "expected" values which also have the relevant defining properties in the domain.' (Biq 1988: 87). To detect the problems of this analysis, let us look at a simple example as in (6).

(6) Xiǎo Wáng cāi Wǔ-Sūi.

Little Wang Cāi 5-CL-year.of.life

'Little Wang is only FIVE YEARS old.'

The intuitive idea is simple and clear: (5) says that Little Wang is five years old (i.e. P(K)), and inasmuch as there is an assumption in the discourse background that Little Wang is older than this (e.g. P(six years)), then the specific value of this assumption is not equivalent to the asserted value. However, the problems are likewise apparent. First, Biq's formal representation and her paraphrase mean different things. While her paraphrase presupposes the existence of one or several expected alternative value(s) (cf. 'one of those "expected" values ...' [my emphasis, D.H.] above), the first conjunct of her material implication in (5) leaves room for the possibility that there is no assumption at all (namely in those cases in which the protasis is false because the alternative value is not expected). Second, if the protasis in (5) is true, the whole expression may become contradictory, because in this case both P(K) and P(Y) would have to be true at the same time, and this would amount to saying that Little Wang in (6) is both five years old (his actual age), and also, say, six years old (if P(Y) is true). Third, the application of the predicate expected' to alternatives to the focus values involves a type mismatch: The argument of expected' as used here must be of a type which may be assigned a truth value at some point in time or in some possible world. A focus value like five years, however, cannot be assigned a truth value. So (5) is not a good notation of the intuition that underlies Biq's analysis.
Lai, too, distinguishes asserted from expected portions of meaning in the analysis; cf. (7) (Lai 1996: 161).

(7) \( \text{cai} (\varphi[x])(t): \)
\[
ea: \exists t' [t'<t \land \varphi(t')]
\]
\[
b: \varphi(t) \land \neg \exists t' [t'<t \land \varphi(t')]
\]

Recall that Lai — in my eyes, wrongly — assumes temporal scales to be involved in each interpretation of cai. Therefore, reference to different points in time (\(t\) and \(t'\)) is made in (7). The line of (7) which gives the e(xpectation)-meaning of cai says that the asserted proposition was expected to be true at a point in time before the reference time. The a(SSERTION)-line of (7) states the assertion expressed by a sentence with cai, plus the assertion that no earlier point in time exists at which the asserted proposition holds. This formal representation presupposes that an illocutionary or modal category of expectedness should be defined which must be on a par with assertion. I consider expectedness, just as likelihood, a theoretically dubious notion to enter into lexical specifications of function words unless they clearly belong to a modal paradigm. This may, to a certain degree, be a matter of taste, so let us return to the more empirical part of the question: Is it really the case that the refutation of a wrong assumption present in the discourse background, then suddenly most assertions can be argued to refute such an assumption, completely independently of words such as cai. After all, telling somebody something usually involves a component of unexpectedness — either hearers have no previous assumptions concerning the truth values of what they get to know, or their previous assumptions are corrected by the new information. If this is so, where should the dividing line be drawn between normal unexpectedness and refutation on the one hand, and cai-worthy unexpectedness and refutation on the other? It seems to me to be perfectly possible to derive the indisputable element of unexpectedness or refutation felt to be present in many utterances with cai from an interaction of a very parsimonious characterization of cai with general mechanisms of focus semantics and information-structure. This will be done in the next section.

Analyses with a comparable conclusion in this sub-domain of the characterization of cai’s function have been proposed by Biq (1984; this is her earlier treatment of cai, in Biq 1988 she explicitly refers to expectations; see the discussion above) and Eifring (1995).

In this section two major dividing lines between competing accounts of the function of cai have been reviewed: The first line separates accounts which analyze cai as necessarily interacting with (temporal) scales from other accounts which do not presuppose this necessity; the second division concerns the question of whether the use of cai always signals the refutation of an expected state of affairs which is assumed in the discourse background. The position taken here is minimalistic: Scales are not essential to the meaning of cai, and the refutation of expected states of affairs is not a precondition for the use of parametric cai, either.

4.1.2 Parametric cai and the exclusion of alternatives: the straightforward cases

In the following I will establish what I think a minimal account of the function of parametric cai should look like. The basic claim will be that cai is a reflex of a specific kind of focus within its verbal background (see the category discussion in section 3.4); the core semantics of the what is considered normal, and one may claim that, from this perspective, Old Li’s arrival in (8) is still later than expected and that the number of apples in (9) is still lower than what is normal. Although I believe that all kinds of general background assumptions are essential to the interpretation of practically every utterance, I am convinced that the exploitation of this fact would lead us on a slippery slope in the case at hand. The point is that if we allow so many things to be covered by the same lexical notion ‘refutation of a wrong assumption present in the discourse background’, then suddenly most assertions can be argued to refute such an assumption, completely independently of words such as cai. After all, telling somebody something usually involves a component of unexpectedness — either hearers have no previous expectations concerning the truth values of what they get to know, or their previous expectations are corrected by the new information. If this is so, where should the dividing line be drawn between normal unexpectedness and refutation on the one hand, and cai-worthy unexpectedness and refutation on the other? It seems to me to be perfectly possible to derive the indisputable element of unexpectedness or refutation felt to be present in many utterances with cai from an interaction of a very parsimonious characterization of cai with general mechanisms of focus semantics and information-structure. This will be done in the next section.

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interacting focus is that of negated existential quantification over the domain of contextually relevant alternatives.

Before setting out on the discussion, let me emphasize once more that cài is not analyzed here as an element which induces an only-interpretation in any other element similar to the way focus particles like only do. Instead, cài just interacts with a focus that, independently, admits of a restrictive interpretation basically identical to that of foci marked by only in English. Thus, if a focus of the semantic kind relevant here enters into the right configuration (see the discussion in ch. 3), cài is just the agreement reflex of this focus within the verbal inflectional system. Therefore, in the course of discussion of the semantic properties of foci interacting with cài, it should always be kept in mind that cài does not induce the specific focus properties, it merely reflects them.

Two standard ways of capturing the meaning contribution of words such as English only are given in (10) (cf. König 1991a: 98f).

\[(10)\]

a. Only JOHN came to the party.

b. presupposition/entailment: John came to the party

c. entailment: \(\neg \exists x [(x \neq \text{John}) \land (\text{came to the party}(x))]\)

c. entailment: \(\forall x [(\text{came to the party}(x)) \rightarrow (x = \text{John})]\)

According to (10b) and (10c), (10a) says that John's coming to the party is presupposed, entailed, or at least implicated, and it is entailed that nobody apart from John came to the party. Note that this entailment is compatible with a situation in which there were many people at the party. What matters is that none of the contextually salient alternatives to John came to the party, e.g. none of his class-mates, or none of his friends. That is to say that the domain of quantification over which the existential quantifier operates is determined relative to specific contexts, i.e. pragmatically (or semantically, if a context anaphor is assumed; see von Fintel 1994). (10c) and (10c') are equivalent ways of stating the same entailment. I will stick to the Horn/König-version (10c) in the following. Instead of using König's term 'restrictive focusing' I prefer the clumsier term 'negated existential quantification over domains of focus alternatives', or an easily identifiable variant thereof. This is done for reasons of terminological exactness which will become fully clear when the other words that are the subject of this study are discussed. Since in the end we will have four types of quantification over domains of alternatives, König's terminological division into restrictive focusing and additive focusing will not be sufficient for our purposes. (11) summarizes what we have stated so far concerning the function of cài.

\[(11)\]

a. Cài is an agreement marker, the verbal background agrees with a semantically specific focus. (See ch. 3 for details.)

b. The interacting focus must be interpreted in such a way that there is no contextually relevant alternative to the focus value which could truthfully be used instead of the focus value in the cài-sentence (cf. (10c)). (to be revised)

These generalizations will take us quite far already. Unproblematic examples that have been introduced before (see section 2.1.1) include the following:

\[(12)\]

a. Zhīyǒu XIĀO WÀNG cài lái.

only Little Wang cai go

‘Only LITTLE WANG came.’

b. Lǎo Wǎng Zhēn-bǐn shǔ cài mài.

Old Wang this-CL book cai buy

‘Old Wang buys only THIS book.’

c. Lǎo Wǎng Xīnqián cài gōngzuò.

Old Wang Sunday cai work

‘Old Wang only works on SUNDAYS.’

d. Zhīyǒu Zhēi-lí wūmén cài nēng wān.

only here we cai can play

‘We can play only HERE.’

e. Nǐ Lái, wǒ cài qu.

you come I cai go

‘Only if YOU COME will I go.’

f. Chūfēi XIĀO WÀNG lái, wǒ cài qu.

only, if Little Wang come I cai go

‘Only if LITTLE WANG comes will I go.’

g. Yìnhuì XIĀO WÀNG Húi Lái, nǐ cài xiǎng qu.

because Little Wang come you cai want go

‘You only want to go because LITTLE WANG WILL COME.’

In (12a-g) a subject, an object, a time and a place adverbial, and subordinate clauses or parts thereof are in focus. Sometimes the focus is overtly marked as quantifying over alternatives ((12a), (12d), (12f)), sometimes not. The cases of overt marking and non-marking might just as well be

\[\text{Footnote:} \]

1 I will not indulge in yet another discussion of whether presupposition, entailment or conventional/conversational implicature is the right notion to capture the semantic/pragmatic status of (10b). To the best of my knowledge, the most recent comprehensive treatment of this classic problem can be found in Horn (1996). My interest concentrates on the entailment in (10c).
reversed. In (12a), all contextually relevant alternative sentences that only differ with regard to the subject value are considered and excluded. In (12b), likewise, no salient item apart from the book at hand is such that it was bought. Old Wang in (12c) habitually works on Sundays and on no other day of the week. The unique possible relevant playground in (12d) is where the speaker is. No other concomitant factor apart from the addressee's coming in (12e) is such that it will ensure the speaker's action, while in (12f) the alternatives under consideration do not comprise all sorts of concomitant factors, but just situations in which somebody comes; among these, only the ones in which the person to come is Little Wang are such that the speaker will go. (12g) is just a reminder of the fact that the use of cāi in matrix clauses in interaction with (parts of) subordinate clauses is not at all restricted to non-realis cases. None of the above interactions of foci with negated existential quantification over domains of alternatives is unheard-of. What is theoretically special about such foci and their interaction with cāi is just that cāi makes the background agree with the focus. If this were the whole story, it would be mysterious why quite a few studies have been devoted to determining the function of cāi. So let us turn to the first set of potentially difficult cases in the next section.

4.1.3 Parametric cāi and scales: ignoring trivial alternatives

One of the classic dilemmas in the analysis of cāi can be illustrated with the following pair of examples.

(13) a. 小王吃了三个苹果。
Little Wang ē-chē 3-CL apple CĀI
'Little Wang ate only THREE apples.'

b. 小王吃了三个苹果。
Little Wang ē-chē 3-CL apple CĀI
'Little Wang ate only THREE apples.'

In (13a) numbers of apples lower than three are excluded as alternatives, while (13b) expresses that numbers of apples higher than three are excluded. Such contrasts are discussed by Biq (1984: 80ff, 1988: 89) and Lai (1999: 640f) for Mandarin, parallel phenomena in German and English are reviewed by Jacobs (1983: 224–31) and König (1991a: 101ff) under the heading of scale reversals. Biq, in one version of her theory

5 Apart from this, I get the impression that the reading we ought to expect according to Lai's reasoning should really be something like 'It has taken Little Wang as long as until now to finish three apples'. This is yet farther away from what the sentence obviously means, than Lai's 'official' translation.

6 A similar way of incorporating these facts is to make use of so-called Horn-scales. I do not introduce them into the argument because their order is a direct function of the really underlying propositional entailment patterns.
in which one eats three apples is also a situation in which one eats two apples, i.e. it is trivial to add that two apples are eaten if somebody says that three apples are eaten. Therefore, if we want to meaningfully exclude alternative propositions (not scalar values, as is often assumed) as asserntible in a given context, we should not exclude the trivial ones, because that would result in a contradiction. On the other hand, a situation in which (13a) can be uttered truthfully will under normal circumstances be one in which Little Wang would also have enough after eating one more apple. In normal situations in which body functions work regularly it is trivial to say that if one has enough after eating three apples one also has enough after four apples. Again, if we want to exclude alternative propositions as asserntible in the given context, we better exclude non-trivial ones; and in this case non-trivial alternative propositions are such that less than three apples are eaten. Therefore, the fact that relatively high scalar values figure in the assertion of (13a), as opposed to relatively low ones in (13b), is a one-hundred-percent consequence of propositional entailment facts.

It is important to see that, from the point of view of the language user or the involved regularities, there is nothing "pragmatic" to these entailments which would set them apart from other implications. If researchers such as Big emphasize the pragmatic nature of their entailments, they invent a distinction that does not matter from the point of view of linguistics. If everything is normal, Little Wang must have had enough after eating four apples if he has already had enough after three apples. If this is not so, the circumstantial conditions between the point in time when Little Wang had enough after the third apple, and the point in time when Little Wang does not have enough after eating a fourth apple must have changed, and the model within which both propositions are interpreted must be different (Little Wang might, for instance, have made a long pause between the third and the fourth apple so that he had time to digest the first three). All of this already follows from standard formal accounts of words such as only which pay attention to their monotonicity behaviour. Basically, I think that no more need be said about the so-called scale-reversals in cai-sentences. Still, we will have to revisit the issue in the next section when temporal scales enter the picture.

On the descriptive level it will do to modify (11) as in (14): It should get clear that by exchanging focus values we really contrast interpretations of sentences with different focus values, and the relevant alternative sentences must not be trivial, i.e. entailed by what the sentences without cai mean.

4.1.4 Parametric cai and temporal scales

The classic dilemma concerning the interaction of parametric cai with temporal scales is easily stated.

(15) a. Xiao Wang BA-dian cai lai.
   Little Wang 8-CL o'clock cai come
   'Little Wang did not come until EIGHT o'clock.'
   'Little Wang came as late as EIGHT o'clock.'

   b. Xianzai cai BA-dian zhong.
   now cai 8-CL o'clock clock
   'It is only EIGHT o'clock now.'

In (15a), cai appears to interact with the temporal scale in such a way that the scalar value BA-dian 'eight o'clock' is characterized as relatively high or late, and earlier values are excluded as Little Wang's time of arrival; in (15b) we get the impression that cai characterizes the same scalar value as relatively low or early, and it is therefore excluded that it is already later than eight o'clock. In the context of our investigation, a number of questions arises. A list is given in (16).

(16) i. Is the word cai as in (15a) the same word as in (15b)?
   ii. Are both cai's or one of the two cai's in (15) identical to parametric cai as discussed before?
   iii. If they are the same, how can uses as in (15) be assimilated to the other uses?

Question (16i) is answered with a clear 'yes' by most researchers. Alett (1972) is probably an exception, since she assumes a general semantic difference between uses of cai in which the interacting focus precedes or follows cai, respectively. I think uses as in (15) should be covered by a single analysis of parametric cai. Seen from a cross-linguistic perspective, it would be extremely difficult to argue in the other direction, simply because the same dilemma is statable in so many languages (cf. König 1979, or Löbner 1989 for German, and the hint at parallel facts in Finnish, Polish and Serbo-Croatian in König 1991a: 117). The other distinctness question, namely (16ii), concerns the fact whether our analysis
A. Previous accounts

(17) a. *Xiao Wang ch¬le SΔn-ge pingguo c¬i b¬o.
Little Wang eat-ASP 3-CL apple CAI full
‘Only after Little Wang has eaten THREE apples does he have enough.’

b. *Xiao Wang c¬i ch¬le SΔn-ge pingguo.
Little Wang CAI eat-ASP 3-CL apple
‘Little Wang ate only THREE apples.’

Recall that in these cases researchers have also claimed that *c¬i marks scalar values as relatively high in (17a), and as relatively low in (17b). This is strikingly similar to the temporal cases in (15). There are differences, however. While it was easy to apply a focus semantics which involves negated existential quantification over alternatives to the sentences in (17), the same is not the case in (15). This is so because those alternative sentences that are trivialized by the implicational nature of the situations in either of (17a) or (17b) do not seem to be trivial at all in (15).

While saying that Little Wang has only enough after eating three apples entails that he also has enough after eating five apples, saying that Little Wang came as late as eight o’clock does not entail his coming at nine o’clock. Likewise, the fact that Little Wang’s eating of three apples entails his eating of two apples remains without parallel if we say that it is only eight o’clock, because if it is eight o’clock, this does not entail that it is seven o’clock. If these parallels do not exist, can we still say that there are any alternatives that are entailed to be wrong? I will try to assimilate the temporal cases in (15) to those in (17) as called for by (16iii). Before doing so, I will review previous proposals that deal with this or related questions (sub-section A). My own proposal is stated in sub-section B starting from p. 126.

A. Previous accounts

Paris (1981: 269ff) makes use of the notions of a focus value (her ‘re·pé·r·é’) and of a contextually given alternative value (‘re·pé·r·é’), which are ordered on a scale. In cases like (18a) (= (15a)) the focus value is situated higher on the scale than the alternative value, and lower in cases such as (18b).

(18) a. Xiao Wang BΔ-di¬n c¬i lΔi.
Little Wang 8-CL: o’clock CAI come
‘Little Wang did not come until EIGHT o’clock.’
‘Little Wang came as late as EIGHT o’clock.’

Both values are assigned truth values, such that the focus value in combination with the rest of the sentence is true, while the alternative value renders the sentence false. She states that *c¬i makes a statement about the scalar portion between the focus value and the alternative value: Until just before the focus value is reached on the scale, all values between the focus value and the alternative value yield false sentences. The crucial point of her analysis is the following: Both in cases in which lower values are excluded, and in cases in which higher values are excluded, some relation with an orientation towards the lower value has its origin in the higher scalar value, i.e. in the focus value in cases like (18a), but in the alternative value in (18b). It is difficult to judge what the explanatory consequences of this reasoning are. Whatever they are, Paris has surely identified the main concepts that must play a role in a successful account. Partly independently of each other, most other accounts seem to boil down to very similar basic ideas, and we will see that they all make a comparable move in order to get to terms with the puzzling situation.

One version goes like this: While (18a) excludes the possibility of Little Wang coming earlier than eight o’clock, (18b) excludes the possibility of saying *It is eight o’clock for any time earlier than the time of utterance. Alternative values in (18a) are earlier points in time on the objective temporal scale as indicated by clocks; in (18b) alternative values are earlier deictic reference times of which the same objective scalar time value, namely ‘eight o’clock’, could (falsely) be predicated. In both cases earlier points in time are excluded, and the puzzle may be claimed to be solved. Krifka (1993: 595) has introduced the general outline of this solution into the discussion, and his idea has been adopted by Lai (1995, 1996, 1999). The problem with this solution is that the general focus interaction of words like *c¬i would have to be given up. In (18a) alternatives to the focus value BΔ-di¬n zh¬ng ‘EIGHT (o’clock)’ are considered and excluded, but in (18b) alternatives to the given reference time xi¬a¬nz¬i ‘now’, which might just as well be dropped without influencing grammaticality or felicity, are considered and excluded. Krifka explicitly states that German erst obviously does not have to interact with a focus in these cases. I consider this a very drastic assumption, and if it should
be made use of it would definitely need independent support and something which constrains its range of application.7

The other variant is akin to this solution, but it does not centre around the exclusion of alternatives, but around the relative position of the expected temporal values. In (18a), the expectation must have been that Little Wang came earlier, so the expectation was ahead of reality: What really happens late was assumed to happen early. In (18b), the expectation must have been that it is already later than eight o'clock, and again the expectation is ahead of reality: What really happens late, namely that some temporal value higher than eight o'clock may be predicated of the time of reference, was assumed to happen earlier, namely ‘now’. As in Krifka’s analysis, the tie-up between obviously focused constituents and semantic reasoning is given up, because the scalar value which is late according to this reasoning is the overt focus value in (18a), but a contextually given alternative in (18b). This line of argument forms part of König’s (1979: 157) analysis of German erst ‘not … until’, but he only alludes to it because he thinks the real solution should be sought in the area of the exclusion of alternative values, and not in the area of conventional implicatures relating to expectations. He does not fully develop this ‘real’ solution, but he seems to have the following in mind: Often certain results follow from an event. It is true of (18a), for instance, that Little Wang will be at the place of reference for some time after eight o’clock. If we assume that German erst or Mandarin cài somehow interact with a semantic representation of these resulting states, it would be contradictory to exclude later points in time: If Little Wang came at eight o’clock, he will in most cases still be there a minute later. In cases like (18b) ‘an accomplished portion of a process etc. is under consideration’ (König 1979: 157), and this seems to mean that earlier points in time cannot be excluded because the same process was already under way at these earlier points in time. Therefore, only points in time after eight o’clock are considered. The problem with this line of argumentation is that it cannot cover all aspctual classes of predicates in the same way: If Little Wang kicks a ball at eight, no resulting state exists which would render Little Wang’s kicking of the ball at 8:01 impossible, or even implausible. Still it is generally possible to use cài (and German erst) in sentences which denote such situations; cf. (19).

7 A possible way of adding plausibility to Krifka’s move would be to say that, in cases like (18b), xiǎnzhài ‘now’ is a (contrastive)-topic. C-topics are known to be accessible to quantification the way for is, and they may be phonetically pronounced as an adverb as well, whereas there is no mechanism which allows us to disregard later points in time the same way as in (18a), although nothing about the state of the ball after it was kicked at eight o’clock, nor about Little Wang or Hannes, is entailed or implicated in (19).

All of this is, admittedly, highly confusing, and I believe that we want something simpler and more intuitive than what has been proposed so far. A step in this direction is L6bner’s (1989) analysis of German erst. In a way, his account is also a variant of those solutions which disconnect the semantic reasoning from the focus-background structure that we find in sentences with German erst and also cài; i.e. in order to keep something in the analysis of erst constant, Löbner gives up the descriptive generalization that erst interacts with (alternatives to) the focus value. His basic idea is that what is contrasted in sentences with cài is not different points in time, but faster and slower developments of the course of events. Imagine you start walking home from your office at 5 o’clock in the afternoon, and you take your time. At 5:30 you pass by the baker’s shop. If you had hurried home you would have been there 15 minutes earlier, i.e. at 5:15. The first scenario is a slow development in Löbner’s sense, the second one a fast development. Although basically the same things happen in the same order in both scenarios, the slow development has it that at each point in time, less has happened in comparison with the fast development.

Returning to (18a) we may say that Little Wang is in a slow development setting, and this kind of slow development is, according to Löbner, the common feature of all uses of German erst. If Little Wang had hurried up, i.e. if he had been in a fast development setting, the event of his coming would have happened earlier. Now turn to (18b). Again we are in a slow development setting: Time is creeping. But this time the slow course of events does not result in a late time coordinate for a given event. That the time is eight o’clock is the eventuality which holds two

(19) a. Xiǎo Wáng 8-CL:o’clock CAI kick-ASP ball
Little Wang kicked the ball as late as EIGHT o’clock.’
Hannes kicked the Ball ERST at 8 o’clock.
Hannes schoss den Ball erst um ACHT Uhr.
‘John kicked the ball as late as EIGHT o’clock.’
‘John did not kick the ball until EIGHT o’clock.’
representation of) time would not have crept so slowly (for the formal details of Löbner's account see Löbner 1989: 194ff). Thus, Löbner achieves the following: Although the focus value is late in (18a), and early in (18b), the developments are slow in both cases. Among all the reviewed proposals, this solution comes closest to our intuition, and it has the further advantage of being theoretically explicit. What it lacks from the point of view of our investigation is the tie-up with negated existential quantification over a domain of alternatives, i.e. it does not give an answer to the question in (16iii). In the remainder of this section I want to make use of the intuitive advantages of Löbner's analysis and combine them with the simple cāi-function as delineated in (14b) above.

**B. The solution advocated here**

What I would like to propose is an analysis of temporal cāi-uses in which some properties of Löbner's developments are reinterpreted as properties of a certain conception of points in time. Specifically, I will argue that adverbial temporal cāi-foci invariably have an until-reading.

Let us say that each point in time may be associated with all the eventualities that have happened or that have been true up to this point.8 This amounts to saying that all points in time are mapped to sets of eventualities, and any given set of eventualities of this kind contains all the members of the sets of eventualities to which earlier points in time were mapped. Needless to say, the set of relevant eventualities is constrained by discourse factors; neither can all eventualities at a given point in time be considered, nor all points in time prior to the relevant point in time. Let us call this discourse-constrained collection of eventualities an 'eventuality bag'. At any point in time we may check what is inside the eventuality bag, and we find that it always contains everything that has been the case so far. This eventuality bag has the following obvious property: At each point in time, it contains everything that earlier eventuality bags had inside them, and the content of each eventuality bag at a given time is also part of the contents of all eventuality bags at any later points in time. In the context of our discussion this is an interesting property because if we interpret the time coordinates of cāi-sentences as really relating to eventuality bags, all later points in time are trivial with regard to the eventualities expressed in the cāi-sentences. This is so since their associated eventuality bags contain everything which was inside the eventuality bag relating to the time coordinate of the cāi-sentence. Applied to (18a) (repeated here as (20)): If it is true that Little Wang has arrived by eight o'clock, it is trivial to say that Little Wang has arrived by nine o'clock, although the second statement is, of course, less informative than the first one if both are true.

(20) **Xiǎo Wāng bā-diān cāi lái.**

Little Wang 8-CL:O'clock CĀI come

'Little Wang did not come until EIGHT o'clock.'/

'Little Wang came as late as EIGHT o'clock.'

This gives us a justification to disregard alternative points in time that are later than the focus value in (20). Now what about the earlier ones? If we apply the quantification focus semantics that we have identified as constraining the interpretation of foci in cāi-sentences, we get the following: No eventuality bag apart from the one associated with the time coordinate of the temporal cāi-sentence (and apart from the disregarded ones) contains the eventuality asserted in the cāi-sentence. This is tantamount to saying that the eventuality under consideration has not happened before the focused point in time. The interpretation of our example then reads as follows: Little Wang has arrived by eight o'clock, and of no other point in time is it true that Little Wang has arrived by then (unless we consider the trivial, i.e. later, alternatives). This gets us (20) out of the way because we have assimilated this temporal use of cāi to the other uses of parametric cāi which involve the ignoring of trivial alternatives, and the exclusion of non-trivial alternatives. What about (18b), though (repeated here as (21) for convenience)?

(21) **Xiànzāi cāi bā-diān zhōng.**

now CAI 8-CL:O'clock zhōng.

'It is only EIGHT o'clock now.'

Again we check the eventuality bag at the reference time 'now'. Among other things, it contains the eventuality that eight o'clock is the correct temporal predicate of our reference time. Also, the eventuality bag at eight o'clock must necessarily allow for the possibility of containing the eventuality that an hour ago it was seven o'clock, and it must generally allow for any other temporal predicate of other reference times that may have been relevant before the reference time 'now'. In other words, if it is true that it is eight o'clock at the reference time t, it must have been 8 minus x o'clock at any time t minus x, and each relevant instantiation of these matchings of t minus x and 8 minus x o'clock must be inside the eventuality bag at the reference time 'now': Before 'now' it had already been six and seven o'clock. So, earlier temporal predicates are trivial alternative values, because all the relevant eventualities are inside
the eventuality bag at the reference time. It does not contain the eventuality that at some future point in time it will be nine o'clock, because eventuality bags only have past eventualities inside them. In general, it does not host any matchings of reference times later than 'now' with temporal predicates later/higher than eight o'clock. This makes (18b)/(21) conform to the focus interpretation which has been identified as triggering the use of cāi: It is excluded that any temporal predicate equal to or higher than 'eight o'clock' could truly have been applied to any of the reference times that have passed so far. In this model the exclusion of earlier points in time in (18a)/(20), and the exclusion of later points in time in (18b)/(21), is a consequence of the different semantic functions of the temporal predicates. In (18a)/(20) bā-diǎn zhōng 'eight o'clock' is a temporal predicate which restricts the temporal domain within which it is true to say that Little Wang came; it is a classic frame adverbial. As such, it is not "inside" the eventuality bag, it rather defines it. In (18b)/(21) bā-diǎn zhōng 'eight o'clock' is the main predicate, and therefore it constitutes part of what is inside the eventuality bag. The eventuality bag itself is defined by some time coordinate corresponding to the time of utterance 'now'.

The assumption is what really matters in cāi-sentences are eventuality bags instead of points in time needs independent support which goes beyond the fact that by making use of this notion we can derive the desired quantificational focus semantic effects. For one piece of evidence, consider the following slightly changed version of (18a)/(20).

(22)  Xiǎo Wáng (zhídào) bā-diǎn zhōng cāi lái.
Little Wang until 8-CL:o'clock clock CAI come
Little Wang did not come until EIGHT o'clock.1
Little Wang came as late as EIGHT o'clock.

(22) has constant truth conditions, no matter whether zhídào 'until' is used or not. It is generally possible to add this word to focused temporal adverbials in cāi-sentences without changing the meaning. In the version with zhídào the reasoning presented above applies straightforwardly. If Little Wang has arrived by eight o'clock, it is trivial to say that he has arrived by nine o'clock, but it is not trivial to exclude his arrival before eight o'clock. Note that I do not claim that time adverbials in Mandarin always have a by-reading or an until-reading. I just claim that focused time adverbials in cāi-sentences get a by/until-reading, and that is the same as saying that focused time adverbials in cāi-sentences are not interpreted as points in time, but rather as eventuality bags.

What are the differences and similarities between the analysis favoured here for the temporal use of parametric cāi and the previous ones reviewed above? Apart from the general difference that cāi is only analyzed as a morphosyntactic reflex here, the differences are the following: Contrary to Lai's and Löbner's accounts, evaluations of points in time as late or early, or of developments as fast or slow, are kept out of semantics proper. Certain alternatives are excluded, and that makes temporal cāi-sentences apt to occur in contexts in which these alternatives are expected to be true.

Löbner's analysis of German erst deals with a word that must relate to scales, recall that German has a normal only-word (nur) which contrasts with erst in this respect. Lai's analysis of cāi "inherits" this general reference to scales, but I have shown in section 4.1.1 above that a scalar interpretation of its interacting focus is not a necessary condition of the use of cāi. There is, however, a certain similarity between my analysis and Löbner's regarding his assumption of slow and fast developments such that German erst is said to always signal slow developments. Löbner establishes an implicational link between developments: At a given point in time, everything that has happened in a slow development so far must also have happened in a corresponding fast development. This is akin to my notion of eventuality bags at different points in time, because all contents of earlier eventuality bags are contained in later eventuality bags. The difference lies in the fact that my eventuality bags are functions of the time adverbials of temporal cāi-sentences: The link between an observable focus-background structure and interpretation is preserved. Löbner's developments are functions of the succession and accumulation of events through time, but the time adverbials in focus are not related to the developments in a way which is as direct as my mapping from points in time to eventuality bags.

4.1.5 Parametric cāi, subordinate clauses, and "necessary conditions"

This section will deal with some of those uses of parametric cāi that go along with foci in subordinate clauses preceding cāi. A relevant sentence is presented in (23).

(23)  Ni Lái, wǒ cāi qu.
you come I CAI go
'Only if YOU COME will I go.'
'I only went because YOU CAME.'
'I would only have gone if YOU HAD COME.'
Almost all studies which deal with the semantics of cāi take the marking of necessary conditions to be at least one function of parametric cāi (cf. e.g. Allerton 1972, Bīq 1988, Cheng 1983, Eifring 1995, Lai 1995, 1996, 1999, Paris 1981, 1983, 1985). This strong tradition is a reflex of the fact that many complex cāi-sentences translate as only-if-conditionals into English (or as nur-wenn-falls-conditionals into German, or as ne...que-si-conditionals into French, etc.), and only-if-clauses have in the Western tradition been analyzed as necessary conditions at least since the Middle Ages. But what exactly is a necessary condition? In terms of a common notation in logic, necessary conditions are the propositions at the pointed side of the arrow which is used to express the relation of material implication; consider (24).

(24) a. $p \rightarrow q$

b. $q \leftarrow p$

(24a) and (24b) are equivalent, i.e. they have the same truth conditions. Both relations are false if and only if $p$ is true and $q$ is false. Otherwise, they are true. Traditionally, this logical relation was equated with conditionals in natural languages. If-conditionals were taken to express material implications with subordinate $p$'s, while only-if-conditionals were taken to be natural language realizations of material implications with subordinate $q$'s. Since in natural language conditional clauses often precede the matrix clause, the expression in (24a) is used to represent if-conditionals, while only-if-conditionals are usually represented as (24b). (25) illustrates this with a classic example.

(25) a. If this animal is a mammal, it has a spine.

b. This animal is a mammal only if it has a spine./ Only if this animal has a spine is it a mammal.

The tradition has it that (25a) and (25b) should be equivalent (the ‘conversehood thesis’). In recent decades several controversies have arisen with regard to these phenomena. First, people have started to doubt whether only-if-conditionals are really the natural-language devices to express material implication. Lewis (1975) and many others after him who work in the formal model-theoretic semantics framework (Kamp 1981, Heim 1982, Kratzer 1991b) have argued that bare conditional clauses headed by if only restrict the domain of quantification over which implicit – usually universal – quantifiers quantify; i.e. if I say (26a), I really mean (26b). That if-conditionals are not generally tied to universal quantification is shown by (26c), a conditional with overt existential adverbial quantification expressed by the word sometimes.

(26) a. If it rains I don’t go jogging.

b. If it rains I never go jogging./It is always the case that I don’t go jogging if it rains.

c. If it rains I sometimes don’t go jogging./It is sometimes the case that I don’t go jogging if it rains.

(26c) may be true although there may be a situation in which it rains and I go jogging. Under this analysis if has nothing to do with material implication; the meanings of sentences with if-conditionals are just often compatible with the truth conditions of material implication because universal adverbial quantification as expressed by always/never, applied to a restrictor (the if-clause) and a nuclear scope (the embedding clause), gives us the truth conditions of material implication: If I never go jogging if it rains, all situations in which it rains are such that I do not go jogging in these situations, which means that it is licit to infer from rainy weather that I do not exercise outside. Nothing is entailed about outside exercise on other weather conditions, and this amounts to material implication.

9 Other approaches do not challenge the general idea of having conditionals boil down to notions such as material implication. Instead, it is argued that while if-clauses are basically sufficient conditions, only-if-clauses should correctly be analyzed as necessary and sufficient conditions (van der Auwera 1997: 181). In many respects this treatment comes close to the analysis proposed here, but it does not make reference to adverbial quantification or modality, notions which I think are crucial in this context. The painful quest for the correct analysis of natural language conditionals beyond the formal Lewis paradigm is reflected in Traugott et al. (eds) (1986) or Athanasiadou & Dirven (eds) (1997).
For more arguments and discussion, particularly of clear counter-examples against the claim that the material-implication theory can somehow be maintained, the reader is referred to Kratzer's (1991b) handbook article or von Fintel (1994). I will from now on assume that if-clauses are not the propositions at the non-pointed left end of the arrow of material implication, but rather explicitly expressed portions of context-specifics within which the matrix propositions are claimed to be true in as many cases as are indicated by (covert) adverbial quantifiers such as always, never, sometimes, most of the time etc. and their equivalents in other languages.

Provided that conditional clauses headed by if are merely often compatible with the behaviour of sufficient conditions, conditional clauses headed by only if will hardly be necessary conditions in any straightforward sense if we aim at a compositional semantics of only if. It would for an independent reason be a surprising fact if we found out that only if boiled down to signalling necessary conditions: only is an element which always interacts with a focus-background structure, while the notion of a necessary condition is completely void of information-structural components. In other words: If the function of only if were to head necessary conditions why, then, should it be a necessary condition of its use to interact with a restrictive focus inside the conditional clause? Note also that any constituent of the only-if-clause may be in focus, but one of them has to be in focus (the same argument can analogously be stated for Chinese cāi-sentences in which cāi interacts with a focus in a subordinate clause that precedes cāi).

(27) a. Only if you pay me will I go.
b. Only if you pay me will I go.
c. Only if you pay me will I go.
d. Only if you pay me will I go.
e. Only if you pay me will I go.
f. Only if you pay me will I go.

(27) assembles all focusing options that are available within the only-if-clause as long as we consider foci that interact with only. One of them must be selected if the sequence of words in (27) is to be uttered felicitously. This means that the focus-background partition in (27) is independent of the partition into main clause and subordinate clause as long as the only-focus remains restricted to the subordinate clause: While (27a), for instance, has a background which may sloppily be represented as If someone pays me I will go, (27b)'s background is If you perform some action on me I will go, and the background of (27c) would be If you pay someone I will go. The only case in which the focus-background partition probably coincides with the relation among the propositional wholes p and q of the material-implication analysis is (27e) (On some condition I will go). I conclude that if we want to analyze only if compositionally we cannot claim that only if straightforwardly signals a logical notion such as necessary condition, which is theoretically entirely detached from the information-structural meaning format of only. The same conclusion is reached by von Fintel (1994), and he tries to derive the purported meaning equivalence in (25) in a way that combines a model-theoretic possible-worlds account of conditionals with a standard meaning of only. But are the sentences in (25), repeated here as (28), really equivalent?

(28) a. If this animal is a mammal, it has a spine.
b. This animal is a mammal only if it has a spine.
   Only if this animal has a spine is it a mammal.

I claim that (28a) does not mean the same thing as the b-sentences. Specifically, I want to argue that the b-sentences can only be interpreted as equivalent to the a-sentence if they are taken to be implicitly modalized. The relevant type of implicit modality is possibility. (Further examples below will show that possibility must be treated on a pair with adverbial existential quantification, just like necessity and universal adverbial quantification. (28b') are the sentences that I claim to be the ones really understood if the variants in (28b) are interpreted as equivalent to (28a).

(28) b. This animal may only be a mammal if it has a spine. Only if this animal has a spine is it possible that it is a mammal.

The following is a context in which uttering (28a) is fine, but insisting on (28b) would seem precipitate. On a trip through Australia you suddenly come across an animal that you have never seen before. It looks very much like a dog-sized mammal, but what you know about the fauna of Australia reminds you that this continent is the home of some obscure in-between creatures like platypuses. In order to find out whether you are dealing with a mammal, you first test whether it has a spine, because you know that mammals have spines (this actually does not help you very much because all serious competitor classes have spines, too, but you do not seem to be such an expert anyway): If this animal is a mammal, it has a spine or If this animal is a mammal, it must have a spine are good ways of expressing your reasoning; it would also be adequate to use

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10 McCawley (1974) is an early proponent of a compositional only-if-semantics.
Focus and background marking in Mandarin

(28b'): This animal may only be a mammal if it has a spine. By no means are you entitled to say: This animal is a mammal only if it has a spine, because we clearly feel that this would — without implicit modalization — be a stronger claim. Either it (wrongly) presupposes that having a spine is a necessary and sufficient condition of being a mammal, or it requires a very special context. The following is such a context. Imagine a hypothetical class of animals called grammals. All kinds of grammals are furry beings, and some of them are as big as dogs, but they do not have spines. If you touch a grammal in the dark you may easily think that you are dealing with a mammal. Suppose further that grammals are frequent in Australia, and that this time you are a well-informed hiker. One night a furry creature enters your tent, and you want to know what it is. You know that furry animals are either mammals or grammals, and in this setting not just (28a), but also (28b) is a good reasoning. (28b) is fine here because (not) having a spine is a necessary and sufficient condition to tell mammals from grammals in this context. This is so because there are only two contextually possible categorizations: Either as a mammal, or as a grammal. Once again, I conclude that, irrespective of concomitant differences in typical discourse embeddings, (28a) and (28b) do not have the same interpretation. That amounts to saying that the two parenthesized expressions in (29a) are not equivalent, but the ones in (29b) are.

(29) a. (if p, q) ≠ (only if q, p)
   b. if p, always q
      ⇔ only if q, is it possible that p
      OR only if q, sometimes p

If this is so, it should be possible to use an explicit modal operator of possibility or an existential adverbial quantifier in each only-if-conditional that is claimed to be equivalent to a reversed if-conditional. This is impossible to test. A viable way of supporting my hypothesis would open up if we found a language in which the modality of only-if-conditional that are reversed if-conditional may not be left implicit. Chinese is such a language. Consider the English example in (30a) — a sentence in the spirit of von Fintel (1994: 141ff) — and its translation into Mandarin in (30b).

(30) a. If the president is at home, the gate of the president’s residence is open.
   b. Ruguo zōngtōng-fū-de mén jīu kāi-zhe,
      if president-residence-ATTR gate JIU open-ASP
      ‘Only if the gate of the president’s residence is open is the president at home.’

These sentences say that the set of situations in which the president is at home is a subset of those situations in which the gate is open. This allows for the possibility that there are situations in which the gate is open, but the president is not in; the president himself might be gone, but the president’s spouse may be at home, and in these cases, too, the gate is left open regularly. In other words: The sentences in (30) have truth-conditions that are compatible with material implication. According to the plain conversenesshood thesis, the sentences in (30) should be equivalent to the ones in (31).

(31) a. Only if the gate of the president’s residence is open is the president at home.
   b. Ruguo zōngtōng-fū-de mén kāi-zhe,
      if president-residence-ATTR gate open-zhe
      ‘Only if the gate of the president’s residence is open may the president be at home.’
   not: ‘Only if the gate of the president’s residence is open may the president be at home.’

I stated above that, in the English case, implicit modalization of the matrix clause must be assumed if equivalence is intended. If (31a) is interpreted as ‘Only if the gate of the president’s residence is open it is possible that the president is at home’, we get what we want: The gate is open at least in all those cases in which the president is at home. Now consider (31b). This Mandarin sentence has different truth conditions; it is false in all situations in which the gate is open and the president is out. If we want to have a Chinese sentence with a modalized interpretation, we need an explicit modal operator as in (31b').

(31) b'. Ruguo zōngtōng-fū-de mén kāi-zhe,
     if president-residence-ATTR gate open-ASP
     ‘Only if the gate of the president’s residence is open may the president be at home.’
(31b)’ is true if the gate is open, the president is gone, but the spouse is in. It is false if the president is at home and the gate is closed. (31a) was false under the same conditions. This seems to me to be good evidence that the equivalence in (29b) is what we are really dealing with in only-if-conditional truths, no matter in what language we state them.

By now we know what is needed to change if-conditional sentences into only-if-conditional sentences (or equivalents in other languages): cf. (32).

(32) (i) a reversal of \( p \) and \( q \);  
(ii) the deletion of the (implicit) universal adverbial quantifier;  
(iii) the addition of an (implicit) possibility operator or an existential quantifier;  
(iv) the addition of a wide-scope only-word relating to a focus in \( q \).

What we still do not know is exactly how the equivalence comes about, given that only-words are of a basically alien kind when compared with words that are used to indicate Boolean relationships among propositions.

To find this missing link, let us do a step-by-step calculation in diagrams. Recall that material implication as indicated by universally quantified if-conditional truths amounts to a subset relation of situations: The set of situations in which the president is at home is a subset of the set of situations in which the gate is open. In other words, the intermediate sentence implicates that intersection does not result in a de-facto subset relation, but logically we are on the safe side.)

Now assume the very same thing for the reversed only-if-conditional in (31a), but ignore only and the requirement of modalization or existential quantification for the moment: If the gate of the president’s residence is open, the president is (always) at home. This flip-flops truth conditions: The set of situations in which the gate is open is a subset of the set of situations in which the president is at home (Figure 4.2).

At this point, substitute the possibility marker or existential quantification for the necessity marker or universal adverbial quantification: If the gate of the president’s residence is open, the president may be at home/is sometimes at home. Set-theoretically, this gives us an intersection: The set of situations in which the gate is open intersects with the set of situations in which the president is in. The extreme case of an incidental subset relation is one possibility: If one set happens to contain only situations that are also members of the other set, intersection will result in a subset relation. Our intermediate sentence is compatible with both extreme subset possibilities apart from the truly intersective ones. It is true if no regularity can be observed, it is true if the regularity leads from the open gate to the president’s being at home, and if it leads from the president’s being at home to the gate being open. The truth-conditions of this intermediate sentence are a subset of the truth-conditions that hold for the sentence with which we started. (Of course, the intermediate sentence implicates that intersection does not result in a de-facto subset relation, but logically we are on the safe side.)

Finally, we introduce only: Only if the gate of the president’s residence is open may the president be at home/is the president sometimes at home. Only has wide scope, so we get an interpretation of the following kind: ‘Apart from the situations in which the gate is open, no other situations are such that the president may be at home in these situations’. Thus, only if the gate is open is there a possibility that the president is in: The set of situations in which the president is at home is a subset of the situations in which the gate is open. In other words, only picks out the extreme case mentioned above in which intersection results in a subset relation. The resulting truth-conditions are identical to the ones of the sentence we started out from, and now we are where we wanted to get to:
Only-if-conditionals are equivalent to reversed universally quantified if-conditionals in which the (implicit) universal quantifier has been replaced by an existential adverbial quantifier or a modal operator of possibility.

(33) provides the step-by-step calculation for the observed equivalence between (28a) and (28b).¹¹

(33) a. If this animal is a mammal, it must have a spine. (true)

truth-condition: The set of mammals is a subset of the set of animals with spines.

b. reversal of p and q: If this animal has a spine, it must be a mammal. (false in many contexts)

truth-condition: The set of animals with spines is a subset of the set of mammals.

c. replacing necessity by possibility: If this animal has a spine, it may be a mammal. (true, but not very informative)

truth-condition: The set of mammals and the set of animals with spines intersect.

d. adding only: Only if this animal has a spine may it be a mammal. (true)

truth-condition: Apart from animals that have spines, no other animals may possibly be mammals.

The conclusions of this section are as follows. A compositional semantics of only-if-conditionals and equivalents in other languages is possible. Parametric uses of cāi with foci in subordinate adverbial clauses belong in this context. Only-if-clauses, just by themselves, do not express necessary conditions, but rather frame adverbials or, depending on one's theoretical preferences, restricts of tripartite quantificational structures. If only-if-conditionals are interpreted as converses of if-conditionals, the (implicit) universal adverbial quantification, or the (implicit) modality of necessity of the if-conditional must have been replaced by (implicit) existential adverbial quantification or by (implicit) possibility. Mandarin is a language in which the modality of such converses may not remain implicit. That makes Chinese a good testing ground for the evaluation of the (dismissed) conversehood thesis.

For conclusions concerning the function of parametric cāi turn to section 4.6.

¹¹ This time, without reference to situations. Situations could easily be used here as well, but since we are dealing with very general propositions this would only make things clumsier.
The subordinate clauses in (35) are overtly marked by yāoshī ‘if’, a word assumed to be at least compatible with the encoding of sufficient conditions, but still jiū is not used. In (36) a scalar threshold is mentioned, and still jiū is not used. The key to the true nature of jiū must thus lie elsewhere.

The markedness relations that hold among parametric cái and parametric jiū are another fact which cannot be made to follow from Alleton’s discussion. Although Alleton (1972: 157) herself mentions these relations, and although she states that jiū is unmarked with regard to cái, this relationship is not derivable from the meaning she ascribes to these elements: Sufficient conditions or causes are not the unmarked members in an opposition with necessary conditions or causes (Alleton’s analysis of the function of parametric cái). At least not if one assumes a Jakobsonian markedness theory which takes the unmarked member of an opposition to be unspecified for the value for which the marked member is specified (cf. Jakobson 1936). Alleton clearly has such a markedness notion in mind, and so there is a clash between her analysis and her theoretical position in this respect.

Paris’s (1981) account of jiū is partly symmetrical to her cái-analysis (see section 4.1.4). She claims that in scalar contexts some oriented relation may originate in a lower scalar value which relates the lower value to the higher value. In cases like (34b) the relation originates in the focus value, and jiū signals that starting from this scalar value, the assertion in which alternatives to the focus value may be used would have yielded true sentences. In other cases the relation still originates in the lower value, but this time the lower value is the (contextually relevant) alternative value. To demonstrate this kind of asymmetrical case, Paris (1981: 276) provides an example which conforms to a sentence type introduced in section 2.2.1.C. above.

Paris assumes that in such cases jiū interacts with yībāi-jīn ‘a hundred pounds’, i.e. the information-structurally distinguished category which follows jiū. Alternative values such as wūshī-jīn ‘fifty pounds’ rank lower, and according to Paris the relation originates in the lower value, although in this example it is not the focus value, but the alternative value. Just as with her cái-solution, I feel unsure to say what conclusions this theory allows us to draw. Moreover, I will argue below that what really interacts with jiū in cases such as (37) is not the focus value which follows jiū, but rather the focus preceding it.

Paris distinguishes a further case which must be set apart from the two other ones. Pertinent examples of this type do not imply a scalar distance between contextually salient scalar values and the asserted value; cf. sentence (38).

The reading of (38) reflected by the English translation without already does not relate to a different contextually salient point in time at which Little Wang might have come. In such cases Paris states a coincidence of the asserted and the contextually salient value. On the already-reading no such coincidence exists, and in this case she presupposes a contrast with a sentence that contains cái. In spite of the fact that I do not see clearly how Paris can successfully deal with all of these different readings, we must keep the different phenomena in mind: Any analysis of parametric jiū must be able to respond to the challenges posed by (the different readings of) the sentences in (34) through (38). Just as in the case of cái, which Paris claims to be “tied” (‘attache’; p. 280) to necessary conditions in complex sentences, she postulates the same kind of “tie” among jiū and sufficient conditions. However, the nature of the link between the logical relation of a sufficient condition and certain information-structural facts - with the latter ones obviously being relevant - remains opaque.

Biq has developed two different proposals to pin down the meaning of jiū. Her earlier version (Biq 1984) reduces the function of (parametric) jiū to mere focus marking. Sentences in which parametric jiū is used contain a “parameter” in focus such as conditional clauses or time adverbials. This minimalistic semantics will get the markedness relations right,
but it only allows us to make predictions that are extremely weak: Most sentences have foci, so it should be possible to use jiù in practically any sentence. Even if we only consider cases in which the focus precedes the predicate, i.e. if the most general syntactic restriction on the use of parametric jiù is respected, we can easily find sentences that are bad with parametric jiù. This is shown by (39), an example we will return to in the next section.

(39) a. #Đông- Юр rên dăng chòng.
     east-Asia people among
     RIBÈN rên jiù chòng-zhe hēi tōufa.
     Japan people JI Ü grow-ASP black hair
     'Among the people from East Asia, THE JAPANESE have black hair.'

b. Òúzhòú rên dăng chòng.
     Europe people among
     IDÁLÍ rên jiù chòng-zhe hēi tōufa.
     Italy people JI Ü grow-ASP black hair
     'Among Europeans, ITALIANS have black hair.'

Both examples are identical, with the exception of the name of the people, and its geographic location. While it is infelicitous to use jiù in the second clause in (39a) — the sentence is felt to be mildly contradictory or not to the point —, jiù may be used in the very similar b-sentence. Simple focusing cannot trigger such an effect. Biq's second analysis of the meaning of jiù is rendered in (40) (Biq 1988: 86f).

(40) jiù (S')=P(K) & ∃Y[P(Y) & Y≠K], K∈D, Y∈D
     S' = the 'sentence' combined with jiù
     P = the relevant properties ascribed to the domain of quantification
     K = the asserted value
     Y = any member of the domain of quantification
     D = domain of quantification

In natural language (40) says that the sentence with jiù is true with the focus value, and it is also true that there is some alternative to the focus value which is not identical to the focus value and which yields a true sentence if used instead of the focus value. Lai (1999: 627) correctly points out that this is what one usually takes to be the meaning of words like also or too, and it is beyond any doubt that jiù does not mean also or too.

The solution favoured by Lai (1995, 1996, 1999) is a mirror image of the account of cāi (see section 4.1.1): Jiù is said to 'presuppose a change of state of the truth value of a proposition, and [...] this change happens at a different point from where it is expected to happen. [...] For jiù, the asserted value of change is located "farther down" [on the structure than the expected value]" (Lai 1999: 625). In other words: Jiù is a focus­
sensitive phase adverb similar to English already or as soon as which presupposes an unexpectedly early change of state, or a change of state that is adverbially anchored in a scalar value that is unexpectedly low.

(41) jiù (Ø[∀x](t)):
     c: ¬Ø[t] ∨ ∃t'[t < t' ∧ Ø[t']]
     a: Ø[t]

In my eyes, the criticism concerning the unclarified theoretical status of components of meaning relating to expectedness (the e-line as opposed to the a[ssertion]-line in (41)) carries over from the discussion of Lai's cāi-solution. However, the most serious problem that arises for Lai's theory is the fact that it is by far too strong. Many uses of parametric jiù are completely void of expectations to the effect that the asserted fact becomes true earlier than expected. (42) is a slightly adapted example taken from Lai (1999: 626), and I have embedded it in two different contexts. The first one triggers a reading which seems to support Lai, but the second context reveals that the expectation denial must be entirely due to the context.

(42) [Context 1: Old Wang always arrives late for work. Sometimes he doesn't show up until 11 o'clock. Today was different, ...]
    tā qì-díān jiù zāi bāngōngshì le.
    (she 7-clt.o' clock jiù at office PRT
    Context 1: '... he was in his office as early as seven o'clock.'
    Context 2: '... at seven o'clock he was in his office.'

If we look at the second context, there is simply no room for an expectation to the effect that Lisi should have arrived later; in this context, being in his office at seven o'clock is just a normal thing to be true in an everyday chain of events. Natural language texts abound with such neutral jiù-readings. If jiù is substituted for cāi, example (8) of section 4.1.1 can be used to support the same point. In this case (8) would simply mean 'As we all expected, Old Li came at Eight o'clock', with no refuted expectation to the effect that Old Li should have arrived later. The conclusion must be that Lai's analysis cannot be right. The refutation component of
the first context must be derived differently, and the essence of *jiù*'s function must be searched for elsewhere.

In this section, different proposals to account for the function of parametric *jiù* have been reviewed. It could be shown that none of the analyses developed so far allow us to generalize in a restrictive way over all instances of parametric *jiù*. In particular, three problems prevail in the analyses. Although many researchers note a link between sufficient conditions and *jiù*, none of them is able to say how a logical relationship such as that of sufficient conditionality can be expressed by an element whose main function must probably be seen in some special information-structural effect. Secondly, it cannot be true that *jiù* always expresses an expectation denial, or that it refuses a wrong discourse assumption, simply because parametric *jiù* is used in many contexts in which no such denial could reasonably be assumed. The third problem has to do with markedness relations: *jiù* has repeatedly been argued to be the semantically unmarked member in an opposition in which *cāi* is the marked member. An adequate analysis should make this intuition follow.

### 4.2.2 Parametric *jiù* and the exclusion of at least one alternative: the straightforward cases

The conclusion of the preceding section has been that neither the marking of sufficient conditions, nor the refutation of wrong discourse assumptions, nor simple focusing is the key notion if we aim at an analysis of *jiù*'s function. On the other hand, a systematic markedness relationship among parametric *cāi* and parametric *jiù* should be reflected by any analysis of *jiù*'s meaning. In section 4.1 an analysis of parametric *cāi* which regards this element as a reflex of negated existential quantification over domains of alternatives has been developed. For *jiù*, I want to claim that it reflects negated universal quantification over domains of alternatives: Some alternative to the focus value must be excluded. Before turning to the complications of this analysis in the following sections, the present section will be devoted to discussing a suggestive pair of examples; I will provide a hint at what may be the general communicative function of the purported semantics of *jiù*-foci, an incompatibility argument will be presented, and a first version of the generalization to subsume all usages of parametric *jiù* will be provided.

The first pair of examples has been used in the preceding sub-section to establish the point that the use of parametric *jiù* cannot be said to go along with simple focusing. Examples (39a/b) are repeated here as (43).

(a) _Ouzhōu rén dāng zhōng._
   Europe people among
   _idāi REN jiù zhāng-zhe hēi tōufa._
   Italy people *jiù* grow-ASP black hair
   ‘Among Europeans, ITALIANS have black hair.’

(b) _#Dōng-Yà rén dāng zhōng._
   East-Asia people among
   _Rīběn REN jiù zhāng-zhe hēi tōufa._
   Japan people *jiù* grow-ASP black hair
   ‘Among the people from East Asia, THE JAPANESE have black hair.’

While (43a) is a normal thing to say, (43b) is a strange utterance provided the speaker and the hearer know that, typically, all people in East Asia have dark hair. If we check this contrast against the background of our assumption concerning the type of focus going along with parametric *jiù*, the results are encouraging. (43b) is bad because the domain from which alternatives to the focus value are chosen only contains black-haired people: All alternatives are the same as the focus value with regard to the assertion made by the sentence. In (43a) things are different. World knowledge tells us that, apart from Italians, there are other peoples in Europe that are known to be constituted by people who have fair hair, or that are at least not as commonly dark-haired as the Italians. We thus quantify over a set of alternatives (i.e. other European peoples, or, more accurately, alternative sentences with other European peoples as focus values), and at least one alternative is false. One such alternative is, for instance, the following sentence rendered in English: *Among Europeans, Finns have black hair.*

There is an objection that is likely to be raised against this reasoning. This objection might be phrased as follows: (43b) may be infelicitous, but if *jiù* is dropped, (43b) is still objectionable. Therefore, it cannot be the use of *jiù* that renders (43b) deviant, but rather some other property distinguishing it from (43a). My answer to this is that while (43b) remains deviant no matter how we change the context, (43b) without *jiù* (= (44)) is impeccable if it is embedded in a supporting context.

(44) _Dōng-Yà rén dāng zhōng._
   East-Asia people among
   _Rīběn REN zhāng-zhe hēi tōufa,...._
   Japan people grow-ASP black hair
   ‘Among the people from East Asia, THE JAPANESE have black hair,...’
Such a context might be an enumeration. Imagine a teacher talking about the way people look in East Asia. He might start by uttering (44), and he might continue as in (45).

(45) ... Zhōngguó Rén zhāng-zhe hēi tóufa,
Chinese people grow-ASP black hair
Chǎoxiān Rén zhāng-zhe hēi tóufa,
Korean people grow-ASP black hair
Dōng-Yā Rén dōu zhāng-zhe hēi tóufa.
east-Asia people all grow-ASP black hair

"... THE CHINESE have black hair, THE KOREANS have black hair, ALL East Asians have black hair.'

The sequence of (44) and (45) gets bad if parametric jiū is added anywhere. These examples show us that it is not a general property of focusing to imply that some alternative is false. Under most circumstances, this will be understood, but it is not strictly speaking part of the meaning of a sentence with a simple focus; otherwise, (44)/(45) ought to be impossible. However, if parametric jiū is used, it is signalled that the focus value comes from a domain that matters: At least for one other value from the contextually restricted domain of focus alternatives, the whole assertion would become false, that is what the use of parametric jiū reflects.

The second argument draws its plausibility from a result that will only be arrived at in section 4.3.2. Still, I will present it here because it is so simple, and compelling at the same time. Imagine a kind of focus marking signalling that all alternatives to the focus value, if used instead of the focus value, will lead to a true assertion. According to our present guess concerning the function of parametric jiū, such a focus marker should under no circumstances be able to combine with jiū, simply because negated universal quantification over focus alternatives on the one hand, and universal quantification over focus alternatives on the other constitute a plainly contradictory pair. If now we assume that liǎn ‘even’ is a focus marker quantifying universally over alternatives (more on this in section 4.3), the well-known unconditional incompatibility of liǎn and parametric jiū follows. This is to say that liǎn ‘even’ never combines with jiū because what liǎn presupposes is excluded by the type of focus relating to jiū: universal quantification over alternatives.

A preliminary statement of the function of parametric jiū which follows the pattern of the descriptive generalization given for cāi in sections 4.1.2 and 4.1.3 might look as in (46). This first version of generalizations concludes the present sub-section.

(46) a. Jiū is an agreement marker, the verbal background agrees with a semantically specific focus. (to be revised)
b. Among all the possible alternatives to jiū-sentences that only differ with respect to the focus value, the pragmatically relevant set of alternatives is considered, and it is presupposed that at least one of these alternatives is wrong. (to be revised)

4.2.3 Parametric jiū and “sufficient conditions”


As in the case of parametric cāi and its alleged tie-up with necessary conditions (see section 4.1.5), this descriptive tradition is a consequence of a translational fact: Many complex sentences with parametric jiū may be translated as if-conditionals into English. If-conditionals and their translational equivalents in other European languages have a long tradition of being analyzed as natural language realizations of the logical relation of material implication, and antecedents in material implications are sufficient conditions. (47) is a typical example which belongs in this context.

(47) Rúguò xíngqī tīngqì hǎo, wǒ jiū qù pà shān.
if Sunday weather good I jiū go climb mountain

In cases of good weather the speaker of (47) will go mountain-climbing, and although it is not very likely that the speaker will go mountain-climbing if the weather is bad, we cannot logically conclude this from (47). The two propositions of (47) thus conform to the truth-conditional behaviour of material implication. Portions of section 4.1.5 have been devoted to showing that it is better not to derive this effect from the meaning of elements such as rúguò ‘if’ or cāi/jiū, but rather from the interaction of implicit quantification/modalization and domain restriction (cf., again, the theories of conditionality in the tradition of Lewis 1975, Kamp 1981, Heim 1982, or Kratzer 1991b). The general idea is that the good weather in (47) is no longer a sufficient condition of the speaker’s hiking trip if the (implicit) universality of the conditional sentence is toned down by an expression like kěnèng ‘maybe’ or yóu de shì hòu ‘sometimes’ as in (47’) or (47”).

(47’) Rúguò xíngqī tīngqì hǎo,
if Sunday weather good
A subordinate clause is in focus. This is represented in (48).

However, under the strict reading with implicit universal quantification, those cases in which the weather is fine, but he stays in the plain, are not allowed. In other words, the subordinate rúguò/if-restricter in (47) delineates a portion of situations in which the main predication is true without exception. As a next step assume that the predicate of the subordinate clause is in focus. This is represented in (48).

(47) Rúguò xíngqìitān tiānqì Hǎo, wǒ jìu qì pà shān.
If the weather is good, I JIU go mountain-climbing.

(48) Rúguò xíngqìitān tiānqì Hǎo, wǒ jìu qì pà shān.
If the weather is fine on Sundays, I go mountain-climbing.

(47)'s and (47)"s unmistakably show that the use of jǐù and of rúguò "if" is not confined to cases in which it is possible to conclude from good weather that the speaker will go hiking, and that cases of mere situational overlap are also covered by these expressive means: In some situations in which the weather is good the speaker of (47) and (47)" goes hiking, in others he does not, and with respect to the bad weather cases we cannot be entirely sure. The conclusion must thus be that jǐù may appear in complex sentences in which the logical relationship of material implication holds among the two propositions, but that this is not to be taken as a one-hundred-percent match.

Having demonstrated the inadequacy of the sufficient-condition proposal, let us return to the idea that the function of jǐù lies in the realm of information-structure. Specifically, we ought to show how negated universal quantification over domains of alternatives, i.e. the focus quantificational type assumed here to determine the interpretaton of foci that interact with jǐù, can be reconciled with jǐù's frequent use in apodoses of complex conditional sentences. The reasoning is similar to the one applied to complex cāi-sentences in section 4.1.5, but a lot shorter than that. First, think of the relationship among weather conditions on Sundays on the one hand, and the speaker's mountain climbing activities in (47) on the other hand as of a subset relation. The set of situations in which the weather is fine is a subset of the set of situations in which our mountain climber practises his hobby. This allows for the possibility that he also goes mountain-climbing in situations characterized by weather conditions that are less pleasant (proper subset relation), or that he only goes if the weather is fine. However, under the strict reading with implicit universal quantification, those cases in which the weather is fine, but he stays in the plain, are not allowed. In other words, the subordinate rúguò/if-restricter in (47) delineates a portion of situations in which the main predication is true without exception. As a next step assume that the predicate of the subordinate clause is in focus. This is represented in (48).

(48) Rúguò xíngqìitān tiānqì Hǎo, wǒ jìu qì pà shān.
If the weather is fine on Sundays, I go mountain-climbing.

(48) could be the answer to a question like Tell me, what should the weather be like for you to go mountain climbing on Sundays? According to my proposal for the analysis of parametric jǐù (see (46)) the following conditions would have to be met: jǐù must be preceded by a focus (okay); alternatives to the focus value are considered, i.e. other possible weather conditions are taken into account (seems correct); it is presupposed that there is at least one type of weather that will keep the speaker from mountain-climbing, let us say, snowstorms, and probably also hail (equally plausible). This seems to be a good explication of what (48) means, but note that this meaning is not equal to the meaning of its English translation. While it may be reasonable to assume that an English speaking mountain climber will not risk his life in a snowstorm, the English translation in (48) does not explicitly exclude this. If used within the contextual embedding chosen here, the Mandarin version (48) does exclude it. If jǐù is not used in (48), no specific quantificational type needs to be assigned to the domain of alternatives. This sentence would have the same truth conditions as the English translation that was given for it, at least with respect to the components of meaning that we are interested in here (cf. also the discussion of examples (43) through (45) in the preceding sub-section).

The contextual embedding that I have chosen to illustrate my reasoning may not be the one which comes to mind first when confronted with the sentence in (47). It is more common to use a sentence like this in a pair-list context as instantiated by the English example On Sundays, if the weather is bad I stay at home and take care of my stamp collection; but if the weather is fine I go mountain-climbing. This kind of context is more complex from the point of view of information-structure, and it is these complexities that I will turn to in the next sub-section.

Before doing so, I will readdress an issue from ch. 3. Among the subordinators that are listed if the expression of "sufficient conditions" in Mandarin is treated, one usually finds the word zhǐyào. (49) is a pertinent example.

(49) Zhǐyào nǐ Yònggōng, nǐ jǐù hui chénggǎng.
only-need you hard-working you JIU will succeed

'If you WORK HARD, you will succeed.'

'You only have to WORK HARD to make it.'
The problem with *zhīyāo* has two sides to it. One of them concerns a potential mismatch between syntax and semantics. Although *zhīyāo* is invariably taken to subordinate its clause syntactically, the necessity operator forming part of it clearly has matrix scope, otherwise the sentence in (49) should come out as *If you only have to work hard you will make it* in English. The second translation of (49) allows a true rendering of the meaningful parts of *zhīyāo*, but only at the price of reversing the embedding relationship between the two clauses in English. In ch. 5, this side of the *zhīyāo*-problem will be studied in its systematic context. The other side of the *zhīyāo*-problem has to do with *zhīyāo*'s meaningful parts: Why is it that an *only*-word in a subordinator does not trigger the use of *cāi* in the embedding clause, given the fact that *cāi* is a reflex of preceding *only*-foci (see sections 3.1.1 and 4.1.2)? (50) is a variant of (49) in which the old regularity holds.

(50) *Zhīyōu nǐ yònggōng, nǐ cāi hui chénggōng.*

*Only if you hard-working you CAI will succeed.*

This sentence conforms to our old generalization stated in (14b): It excludes the possibility that anything apart from hard work will do. This is not the case in (49); this sentence may be true in a situation in which hard work will achieve the desired result, but mere luck is not excluded as an alternative. The presence of an *only*-marker preceding the structural position of *cāi*/*jiù* is thus not a sufficient condition of the use of *cāi*. The only thing that matters is the interpretation of the focus, i.e. its specific kind of quantification over domains of alternatives, and not the presence or absence of a focus marker like *zhī*. By saying *Only p is necessary to q with only* scoping above necessity – the case of (49) – nothing is entailed about alternatives to *p* which might also make *q* possible. It is just excluded that more than *p* or anything else but *p* is necessary. In (50) things are different: *Only if p will q follow or Only p is such that q follows* excludes the existence of sufficient alternatives to *p*.

The last thing to be mentioned here is the effect of negated universal quantification that must, according to the generalization in (46b), be demonstratable for each occurrence of parametric *jiù*. This demonstration is almost trivial in the case of (49): The *¬q*-requirement says that there must be one alternative condition which is such that the addressee will not make it on this condition. This is necessarily the case, since otherwise the use of the necessity operator *-yāo* would not be justified. If some behaviour is necessary, there must be some other kind of behaviour that will not do, e.g. playing computer games all day or going out every night.

Let us now turn to the information-structurally complex kinds of conditional sentences: Those involving *foci* and C(ontrastive)-topics.

### 4.2.4 Parametric *jiù* and C-topics

The matter to deal with in this section has already been alluded to in the context of (47)/(48) above (repeated here as (51)); it is further illustrated by (52).

(51) Rágūn xíngqìtiān tiānqì [HÁO]C-topic, wǒ jiù QÚ PÁ SHÀN.

*If Sunday weather good I JIU go climb mountain.*

(52) Yǐnwéi [CHUÁNGHU] WÀIMIÁN YÓU-GE CHÚFÁNG]C-topic,

because window outside exist-CL kitchen

fángjiān jiù ĀN le.

room JIU dark PRT

'Since [THERE IS A FOOD STALL OUTSIDE THE WINDOW]C-topics, the room is DARK.' (hx: 346)

A question to which (51) could be part of an answer would be the Mandarin equivalent of *What do you usually do on Sundays?* If (51) is used to answer this question, we feel that the question has only partly been answered, and the speaker should also tell us what he does if the weather is bad. (52) in reply to *What's bad about the room?* evokes the feeling that this room has more shortcomings, and that those shortcomings are due to reasons different from the one mentioned in the sentence. The problem with these examples is that *jiù* clearly does not interact with the *foci* which follow it, but rather with a special information-structural category termed C(ontrastive)-topic, here in the tradition of Bürg (1997, to appear). So far, we have only analyzed examples in which *jiù* interacted with a *focus* (cf., however, the C-topic examples in section 2.2.1), and therefore we should be able to demonstrate the following:

(53) i. Generally, 'C-topic' should be a notion that is sufficiently similar to the focus notion to warrant effects of quantification over domains of alternatives;

The same phenomenon is covered by Lambrecht's (1994) contrastive topic notion or Liu & Xu's (1998) topic foci (Büring's 1997 term for it was S(entence)-topic). Liu & Xu assume the feature combination [+contrastive], [+prominent] for topic foci. I have nothing to say about the phonological or phonetic difference between the prosodically prominent part of foci as opposed to the prosodically prominent part of C-topics in Mandarin.
ii. Specifically, the focus quantificational effect assumed here to be reflected by *jiǔ* should be compatible with C-topics.

Concerning the first question I will begin by giving a brief and very informal survey of some of Büiring’s (1997, to appear) findings. This overview, just by itself, will emphasize the parallels between foci and C-topics.

Büiring assumes a hierarchical information-structural partition of sentences which minimally yields a focus and a background. The background itself may further contain a C-topic. C-topics induce a kind of stacked or recursive consideration of alternatives. To see what this means, let us start with a variant of (51) which only has a focus, but no C-topic.

(54) *Rüguō xǐngqǐliǎn tiānqì huò, wǒ QÚ PÁ SHÀN.*

If Sunday weather good I go climb mountain

‘If the weather is fine on Sundays I GO MOUNTAIN-CLIMBING.’

This sentence would be appropriate as an answer to a question like *What do you usually do on Sundays if the weather is fine?* It relates to alternative sentences which only vary with respect to the focus value *qú pá shàn* ‘go mountain-climbing’ such as Mandarin equivalents of *If the weather is fine on Sundays I go fishing/I go bird-watching/I stay at home and rearrange my stamp collection/I stay at home and clean my basement.* The contextually relevant alternative sentences may be regarded as members of a set, and this set of alternative sentences, which also has the identical alternative to the asserted sentence as a member, is taken to be the focus meaning of a sentence (cf. Rooth 1985). Note that the set of contextually salient alternatives need not exclusively have plausible members. It is, for instance, not very likely that the speaker of (54) habitually cleans his basement on Sundays if the weather is fine, but still this is a possible alternative sentence which forms part of a possible relevant focus meaning of (54) in context. Just think of a context in which (54) is used to express one’s disapproval of a friend’s suggestion to clean the basement this weekend: *What are you thinking? The weather is so beautiful, and I’m supposed to clean the basement? If the weather is fine on Sundays I go mountain-climbing.* Given this context, the focus meaning of the sentence must contain something like *If the weather is fine on Sundays I clean the basement,* because that is what is rejected by (54) under these conditions.

When C-topics come into play, the same mechanism that applies to the original sentence to yield the focus meaning now applies to the focus meaning of a sentence (cf. (55)).

(55) *Rüguō xǐngqǐliǎn tiānqì [HÁO]C-topic, wǒ QÚ PÁ SHÀN.*

if Sunday weather good I go climb mountain

‘If the weather is [FINE]C-topic on Sundays, I GO MOUNTAIN-CLIMBING.’

Our focus meaning *(If the weather is fine on Sundays I go mountain-climbing, If the weather is fine on Sundays I go fishing, If the weather is fine on Sundays I go bird-watching, If the weather is fine on Sundays I stay at home and rearrange my stamp collection, If the weather is fine on Sundays I stay at home and clean the basement, If the weather is fine on Sundays I play the flute, ...)* will thus be inflated to become a set of focus meanings, i.e. a set of sets of alternative sentences, because the mechanism of relating sentences with C-topics to relevant alternatives takes focus meanings as inputs. A possible two-member set of such focus meanings of (55) is given in (56).

(56) {{*If the weather is fine on Sundays I go mountain-climbing, If the weather is fine on Sundays I go fishing, If the weather is fine on Sundays I go bird-watching, If the weather is fine on Sundays I stay at home and rearrange my stamp collection, If the weather is fine on Sundays I stay at home and clean the basement, If the weather is fine on Sundays I play the flute, ...*}}

The two sets that are the members of the superset only vary with respect to the value in the position of the C-topic of the assertion: The first set includes all alternative sentences of the focus meaning, the second set contains identical sentences, but this time with a different C-topic, namely *bad* instead of *fine*. Another way of sloppily rendering this information-structural dimension of meaning would be to say that (56) represents something like *(If there is x-weather on Sundays, I do y.* Büiring (to appear) integrates this analysis into the wider frame of a complex model.

15 This view of alternative set formation could, if necessary, be implemented into the present proposal. For ease of exposition, I assume the asserted proposition not to be part of the set of alternatives over which focus quantification operates.
of discourse: Each sentence in a discourse is taken to answer a(n implicit) question, Büring's Q(uestion)U(nder)D(iscussion). Sentences without C-topics answer QUD's in a complete way, whereas sentences with C-topics always relate to a sub-question of a more general QUD. Consider (57) (cf. Büring 1997, to appear).

(57) Q: What did the pop stars wear?
   A: The pop stars wore GLITTER COSTUMES.
   A': The [FEMALE]C-topic pop stars wore CAFTANS.

(57A) conforms nicely to the conventional wisdom about question-answer pairs: The answer to the preceding question contains a focus with the new information in (roughly) the same syntactic function as the question word in (57Q). Now turn to (57'A). If this sentence is used to answer (57Q), Büring would say that what the speaker really does is not answer (57Q), but rather an implicit sub-question, namely (57'SQ), the I(mmediate)QUD:

(57') SQ: What did the female pop stars wear?

That is tantamount to saying that the use of a C-topic in (57'A) is a strategy to signal that the sentence in which it is used does not answer some complete QUD, but only part of it. Other discourse configurations allow speakers to make conversational moves of diverse kinds, because speakers need not restrict themselves to straightforwardly answering questions or sub-questions, they may, for instance, also insinuate new super-questions. (58) is a pertinent example from Büring (to appear).

(58) Q: Where were you at the time of the murder?
   A: [I]C-topic was AT HOME.

If (58A) had been uttered without the C-topic prosody it would have answered (58Q) without any residues. But (58A) is different, it is somehow an excessive answer, because it is really a partial answer to an implicit overarching QUD as in (58').

(58') Q: Who was where at the time of the murder?

By bringing a second variable into play, the speaker of (58A) insinuates that somebody else may not have as watertight an alibi as the speaker himself.

Along such lines of argumentation, Büring develops a typology of possible implicit moves, but this typology is not immediately relevant to our concern here. The interested reader is referred to Büring's original work for the explicit theory of discourse structure, question-answer congruence and other related matters. What the preceding discussion has shown with-out any doubt is that C-topics are similar enough to foci to be of some relevance in a discussion of information-structural effects and quantification over domains of alternatives; the potential obstacle mentioned in (53i) above has consequently been cleared.

What about (53ii) now, namely the plugging-in of negated universal quantification over domains of alternatives? If jiu always signals the presence of an information-structurally distinguished element which has a reading of the ¬¬¬-type, we will have to show in what way this is compatible with C-topics and their Büring-style analysis.

Let us start by looking at (59) (= (51)) again.

(59) Rígù xīngqì tī qì [HAO]C-topic, wǒ jíù QŪ PĀ SHĀN.
    If Sunday weather good I JIU go climb mountain
    'If the weather is [FINE]C-topic on Sundays, I GO MOUNTAIN-CLIMBING.'

Intuitively, negated universal quantification over the domain of alternatives should yield a focus-semantic meaning like the following: 'If the weather is fine on Sundays I go mountain-climbing, and it is not true of all other weather conditions on Sundays that I go mountain-climbing on these conditions'; an equivalent statement would be 'If the weather is fine on Sundays I go mountain-climbing, and there is at least one kind of weather condition on which I will not go mountain-climbing on Sundays'. Intuitively clear as it is, this spell-out is not easily stated in terms of our C-topic account. This is so because the alternatives being considered with regard to C-topics are not sentences, but sets of sentences (cf. (56)). Therefore, if we want to follow our intuition and aim at picking out minimally one alternative sentence, namely the first sentence of the second set in (56), and say that it is presupposed to be wrong, we have not excluded one set from the domain of alternative sets, but only one member of a set of alternative sentences.

I am not entirely sure what to do about this problem, and how much of Büring's theory would have to be changed to accomodate the data that we are interested in. But at least I can point out a formal operation that will serve as a remedy for our present problem. If we take Büring's set-of-sets representation for focus meanings of sentences with a focus and a C-topic, and form the generalized union over this set of sets, things are the way we need them. The generalized union over the set of sets will be a single set without any subsets, and its members will be all alternative propositions considered, no matter whether they differ with respect to the value of the C-topic, or the focus value, or both. This flat set of alternatives is given in (60).
outside the window the room would be noisy, tives that are considered as a consequence of the presence of presupposed that at least one of them is wrong (the first one in our case).

side the window, the room would be dark. This time is something like I(mmediate)QUD is being dark. This time

A whole new problem comes into play when we consider (52) again, repeated here as (61).

Yǐnwèi [CHUÀNGHÚ WÁIMÁN YÓUGÉ CHÚFÁNG]C-topic, because window outside exist-CL kitchen fángjiān jǐu ÁN le. room JÍU dark PRT
‘Since [THERE IS A FOOD STALL OUTSIDE THE WINDOW]C-topic, the room is DARK.’ (hx: 346)

This sentence is good in a context in which the pros and cons of renting a specific room are discussed. The general Q(uestion)U(nder)D(is-cussion) is something like What’s bad about the room?, the – probably implicit – (immediate)QUD is What’s the bad consequence of there being a food stall outside the window? (61) with jǐu presupposes that not all alternative settings in which no food stall is present would result in the room being dark. This time jǐu does not just interact with a C-topic, the alternatives are also of a different, counterfactual kind. Alternatives that are relevant to jǐu are not different asserted reasons of different consequences, but counterfactual conditions: If there were no food stall outside the window, the room would be dark or If there were night market outside the window the room would be noisy, this is the kind of alternatives that are considered as a consequence of the presence of jǐu, and it is presupposed that at least one of them is wrong (the first one in our case).

Sure enough, this difference is due to the different kinds of complex sentences in which jǐu is used. While (59) is a conditional sentence in which quantification over more than one situation (all weekends with good weather) is involved, (61) is a statement about a single situation (a shortcoming of a single room). We will return to this phenomenon in the ye-section 4.3.5, where it plays an important part in the unification of additive focus semantics with certain examples of non-counterfactual concessivity. For our descriptive generalizations the revised version of (46) in (62) follows.

a. Jǐu is an agreement marker; the verbal background agrees with a semantically specific focus or C-topic. (to be revised)

b. Among all the possible alternatives to jǐu-sentences whose propositions only differ with regard to the focus or C-topic value, the pragmatically relevant set of alternatives is considered, and it is presupposed that at least one of these alternatives is wrong or would be wrong. One of these alternatives is wrong in those cases in which the alternatives are not counterfactual (in habitual if-sentences, for instance); it would be wrong in those cases in which counterfactual alternatives are considered. (to be revised)

The main point to be brought home from this section is the empirical observation that jǐu is often used in sentences with complex informational-structural partitions: Foci, backgrounds, and C-topics within the background, can be distinguished in such sentences. C-topics, just like foci, involve the consideration of alternatives. In such complex sentences, jǐu interacts with the C-topic preceding it, and negated universal quantification over domains of alternatives may be said to operate over the generalized union of the focus meaning of the sentence which has both a C-topic and a focus. Apart from sentences in which non-counterfactual alternatives are presupposed as false, jǐu may also be used to indicate quantification over domains of counterfactual alternative sentences.

4.2.5 Implicit C-topics
In the preceding section we have seen that jǐu may interact with preceding elements that are probably not foci, but C-topics. Some uncertainties have remained with respect to the interaction of C-topics with the focus semantics assumed here to be relevant for the use of jǐu. In this section the theoretical challenge is enhanced by the fact that jǐu must sometimes be argued to interact with extra-sentential or implicit C-topics. Example
(63), an attested sequence from a radio play, has already been quoted in section 2.2.1.A. [Wenling considers having a fortune teller remove an allegedly unlucky mole from her face. Her brother refuses to encourage her.] Brother: 
Sui nǐ, sui nǐ! Nà shì nǐ zīgěr-de shìqìng!
as you like that be you personal-ATTR matter
'As you like! That's your own business!' Wenling: 
Xiāngmìng xiānshēng, wǒ jiù qīng nǐ bāng wǒ diān-diāo.
fortune-teller mister I jiù ask you help I cut-off
'Mister Fortune-teller, [[THIS BEING SO]C-topic] I'm ASKING YOU TO REMOVE IT FOR ME.' (rp. 22)

Intuitively, we want to say that Wenling, by using jiù in (63), somehow refers back to her brother’s opinion that the decision to have her mole removed is her own business. This is indicated by the small-font C-topic in the English translation, a translational hint which should not obscure the fact that no C-topic is present in Wenling’s utterance. If we spell out the information-structural impact of the extra-sentential C-topic and the use of jiù in Wenling’s turn, we get something like Since it is my business to decide upon having the mole removed or not, I am asking you to remove it for me, and at least one different setting is possible—say, if it had been my brother’s business to make the decision—in which I would have done something else. In other words: Wenling does not just make a decision about the little surgery (answer to the QUD Should I ask the fortune-teller to remove my unlucky mole?), she also ties the decision to the fact that she can decide herself (partial answering strategy to the implicit super-question Given that there are different potential decision makers, should I have the supposedly unlucky mole removed or not?). There are at least two awkward aspects about this. The first problem is that I have argued above that an analysis of parametric cāi which presupposes interaction with an implicit category is probably mistaken (see section 4.1.3 and in particular the discussion following example (13)). Now I am claiming that parametric jiù does precisely that: Quantify over a domain of alternative sentences in (63) that differ with respect to an implicit element such as this being so (namely that it is Wenling’s business to decide) as opposed to some more or less specific version that is otherwise (if, for instance, her elder brother made the decision). Are both claims tenable? I think they are, because there is an important difference between alleged covert elements interacting with cāi on the one hand and implicit C-topics interacting with jiù on the other. Recall Lai’s argument from section 4.1.3, which is based on the assumption that cāi as in (13b), repeated here as (64), does not interact with SĀN(-ge píngguǒ) ‘THREE (apples)’, but rather with an implicit temporal value in focus, and that the sentence really means ‘Little Wang has only eaten three apples so far’ or even ‘It has taken Little Wang as long as until now to eat three apples’. (64) Xiǎo Wāng cāi chī-le SĀN(-ge píngguǒ.
Little Wang cāi eat-ASP 3-CL apple
'Little Wang ate only THREE apples.'

I have demonstrated above (cf. section 4.1.1) that Lai’s claim concerning the translation cannot be maintained. What is of interest here is the fact that (64) contextualizes readily without any further information. Other readings in which cāi is read emphatically or aspectually may be possible (cf. sections 2.1.3 and 2.1.4), but they are not preferred. Now see what happens if we use Wenling’s statement out of context.

(65) Wǒ jiù qīng nǐ bāng wǒ diān-diāo.
I jiù ask you help I cut-off
'I'm simply asking you to remove it for me.'
'I'm only asking you to remove it for me.'

Mandarin speakers who are confronted with (65) out of context will come up with a translation that conforms to one of the two English translations of (65), but not with the reading presented in (63) above. The first version in (65) is an instance of the emphatic use type of jiù (see section 2.2.4), and the second version conforms to the focusing use type as mentioned in 2.2.5. The comparison of these different patterns of contextualization reveals two important things. First, (64) brings along everything that is needed to make sense of it, provided we accommodate a context or a QUD for the overt focus, and even if a reference time is relevant in some fashion in (64), the reference time must not be a focus in the sense of providing new information. Second, if we take into account that the propositional content of the C-topic argued here to be implicit in (63) (‘It is Wenling’s business to decide upon having the mole removed or not’) is given, the implicit category is, albeit information-structurally distinguished, not new information in (63). What is new in (63) is just the fact that the propositional content of the C-topic is a restrictor of the predication in the overt part of the sentence with jiù. In the absence of a competing focus or C-topic preceding jiù in (63), this new fact may indeed be left implicit, because anything apart from the main predication that is left
implicit surely acts as a restrictor of the main predication. In short we may say: Since the content of the C-topic in (63) is given, it may be left implicit; the fact that it acts as a restrictor of the main predication in spite of its being implicit is not an unusual fact. In general, the assumption of implicit C-topics does not seem to pose insurmountable theoretical problems; on the other hand, I cannot see how foci could be left implicit. Therefore, it is justified to claim both: The implausibility of Lai's implicit-focus analysis to account for (64), and the feasibility of the implicit C-topic analysis to account for examples such as (63).

The second difficulty concerns the very nature of being implicit. Are we dealing with a phonetically empty element which is nonetheless structurally present as a constituent of (63)? Or is everything pragmatic in the sense of 'not determined by semantics proper'? With respect to these considerations, I am in an uncomfortable position. On the one hand, I tend to be reluctant to assume covert syntactic elements or to postulate a rich specific syntax in exchange for general pragmatic or semantic principles. On the other hand, I am forced to do so in this particular case. If we say that there is a morphosyntactic mechanism at work in cases in which parametric jiù is used (see section 3.4), morphosyntactically relevant entities - the agreement trigger in our case - should be represented in the syntax.

Let us now turn to a second pertinent example introduced in section 2.2.1. It is repeated here as (66).

(66) [Two children are negotiating about what to play. One of them suggests to play hopscotch.]

Ni bù shì zui xihuan wān r tiao fāngzi ma?
you not be most like play jump house
'Don't you like playing hopscotch most?'

Wōmen jiù zāi zhē-ge rènxīngdào-hóng-zhūān
we jiù at this-CL pavement-red-brick
shāngmiān wān r, hāohūāo?
surface play okay
'[[THIS BEING so]C-topic] Let's play ON THE RED SLABS OF THIS PAVEMENT, okay?'

Again, the C-topic interacting with jiù is not an overt part of the sentence in which jiù is used, and the small-font C-topic in the English translation is just a hint. Out of context, the second sentence of (66) would be translated as 'Let's simply play on the red slabs of this pavement, okay?' (emphatic use of jiù), or as 'Let's only play on the red slabs of this pavement, okay?' (focusing use of jiù). The extraction of the content of the C-

topic is less straightforward this time, because it is formally nested in a question: The Mandarin equivalent of the reconstructed assertion 'You like playing hopscotch most' is Ni zui xihuan wān r tiao fāngzi. The explicit second sentence of (66) would then come out as in (66').

(66') Yinwēi ni zui xihuan wān r [tiao fāngzi]C-topic, wōmen jiù zāi
since you most like play jump house we jiù at
zhi-ge rènxīngdào hóng-zhūān shāngmiān wān r, hāohūāo?
this-CL pavement red-brick surface play okay
'Since your favourite game is [HOPSCHOTCH]C-topic, let's play ON THE RED SLABS OF THIS PAVEMENT, okay?'

The QUD which can be reconstructed here is not just Where should we play?: it is something like Depending on what your favourite game is, where should we play? (66') or (66) are partial answers to this question, and alternative partial answers could be If your favourite game were soccer, we should play on the soccer field near the school or If your favourite game were hide-and-seek, we should play in the park. The use of jiù excludes the possibility that all alternative games could be played on the red pavement slabs, and this is surely true.

Two more attested examples which can be analyzed along the same lines are provided in (67) and (68).16 The reader is invited to apply the above reasoning to these sentences. Note in passing that (67) is an instance of a hypothetical conditional and that such conditionals, just like hypothetical or counterfactual conditionals with cāi, need not be specifically marked as such.

(67) [A married couple, adoptive parents of their daughter, are discussing whether they should tell their daughter about her true origin.

The mother does not want to tell the truth to her daughter.]

Tā yàoshí zhídào tāde shēnshì, ...

she if get.to.know her origin
tā jiù gēn tāde qīn fāmǔ zōu la!
she jiù with her real parents leave

Wōmen zhè yì-shēng-de xīn-xuē
we this whole-CL.life-ATTR heart-blood

bù jiù bái-fèi-le ma?
not jiù in.vain-spend-PRF okay

'If she gets to know her origin, she will go away with her true parents! [[FESHEDEDIHAT]C-topic] Wouldn't the painstaking effort of our

16 There are two instances of parametric jiù in (67). The second occurrence is the one we are interested in here.
whole life have been wasted? (rp: 16)

(68) [An active citizen has seen the traffic passing by his house grow over the years. He is concerned about the increasing number of traffic accidents.]

Yoqian ne, yi-tian nande kanjian yi-hu kache, keshi before PRT 1-CL:day seldom see 1-CL truck but xiantai butong le, dao1chu shi da chezi, jiaoyong now different PRT everywhere be big vehicle traffic zhixu ye lun. Wo jiu bu ziji suo develop also chaotic I JIU BA self PRT jianbao-de, xie-le yi-zhang bangao song-dao xian see-ATTR write-ASP 1-CL report send-to county zhengfu qu. government there

'We rarely used to see more than a single truck in a whole day here, but now things have changed, there are big vehicles everywhere, and the traffic has become chaotic. [[THIS BEING SO]]C-topac I have written a report to the county government to tell them about what I have noticed.' (rp: 36)

(69) incorporates the findings of this section into the descriptive generalizations which cover the function of parametric jiu: C-topics may be implicit and still trigger the use of parametric jiu.

(69) a. Jiu is an agreement marker; the verbal background agrees with a semantically specific focus or an (implicit) C-topic.

b. Among all the possible alternatives to jiu-sentences whose propositions only differ with regard to the focus or the (implicit) C-topic value, the pragmatically relevant set of alternatives is considered, and it is presupposed that at least one of these alternatives is wrong, or would be wrong. One of these alternatives is wrong in those cases in which the alternatives are not counterfactual; it would be wrong in those cases in which counterfactual alternatives are considered.

4.2.6 Parametric jiu, temporality, scales, and evaluation

The preceding extensive discussion of jiu-sentences that are, in one way or another, conditional or causal is likely to have evoked the impression that parametric jiu is mainly used in such contexts. This is not the case, and the present section will give an overview of the large diversity of scalar contexts in which jiu may just as well appear. The general idea will be to provide a descriptive frame first in order to assign each of the discussed (types of) examples to one or several of these descriptive categories. It will be shown for each of these categories how the specific focus semantics relating to jiu interacts with the specific contextual types to yield rather diverse sentence readings. The diversity of these readings has often given rise to over-determining the function of jiu. I will argue in each case that jiu's function should remain as economical as it is now, and that it is the context which should be held responsible for the interpretational surplus.

The examples in sections 4.2.2 through 4.2.5 display no scalar phenomena. Apart from the fact that the excluded alternative sentences should, of course, not be entailments of the asserted sentences, implicational relationships among alternatives have not mattered so far. The examples in this section invariably involve scalar alternatives. The subparameters under discussion are the following:

(i) the scalar value may be evaluated as relatively low, or no evaluation may be involved;

(ii) the scalar value may be temporal or non-temporal;

(iii) the focus value may coincide with the parametric value at which some change of state happens, or it may diverge from the parametric value at which some change of state happens.

The reader is sure to have noticed that none of these three dimensions really restricts the use of parametric jiu. Within each of the three dimensions, jiu is compatible with some value, and with its complement. Nevertheless, large portions of the literature on jiu centre around such matters, and that is one reason why special attention is paid to them here. Another reason is that the discussion of these matters is an opportunity to see how far our simple jiu-function takes us, and how much we may confidently leave to the context.

A. Evaluation and (non-)temporal contexts

I have argued in section 4.2 above that evaluational components are not invariably present in sentences with parametric jiu. The illustrative example (70) (=42), but enriched with information-structural details introduced in sub-section 4.2.4) with its two contexts demonstrates this.

(70) [Context 1: Old Wang got up at six, took the bus at 6.30, and ... Context 2: Old Wang always arrives late for work. Sometimes he doesn't show up until 11 o'clock. Today was different, ...]

ta (71)(C-topac)-dian jiu zai bangongshi le.
(s)he 7 -CL: o'clock JIU at office PRT

Context 1: '...at [SEVEN] C-topac o'clock he was in his office.'

Context 2: '...he was in his office at SEVEN o'clock already.'
assumed so far, I must take the first ingredient to be a presupposed part
early, and not at a later point in time. According to everything I have
stands it does not merely detach evaluation from the function of
runs outright in the opposite direction.
we want for
poses that he has not been there all night. That is exactly the reading that
Old
Wang arrived in his office on that morning, the use of
first context clearly contradicts this: Having
an apple as a snack between two meals is neither a lot nor little, it is just
enough.'
While context 2 may give the impression that the evaluational component
due to the use of jiù, the first context clearly contradicts this: Having
habitual, neutral with regard to Old
Wang’s being late or not. A non-temporal example which serves to support
the same point is (71) (cf. Biq 1988 or Lai 1999).

(71) [Context 1: Often Little Wang feels a bit hungry by eleven o’clock
in the morning. In this case.
Context 2: Little Wang is not a big eater. After not eating for a
day, he still does not eat very much. ...]
... tà chī yī-ge pǐngguǒ jiù bāo.
(she eat 1-CL apple jiù full
Context 1: ‘... he has enough after eating an apple.’
Context 2: ‘... after eating as little as one apple he already has
enough.’

There is an interesting twist in this reasoning, because as it
stands it does not merely detach evaluation from the function of jiù; it
runs outright in the opposite direction. \( W \)-quantification excludes at
least one earlier point in time, but context 2 says that Old Wang came
early, and not at a later point in time. According to everything I have
assumed so far, I must take the first ingredient to be a presupposed part
of the meaning of sentence (70). The evaluational component should on
the other hand be an implicature. That is tantamount to saying that in
each possible context of (70), some earlier point in time must be exclud
while the evaluation of the point in time ‘seven o’clock’ as early
may be lost. The second reading of (70) confirms precisely this. Here, we
are dealing with a C-topic structure as discussed in previous sections:
\( Qi-dān \) ‘seven (o’clock)’ is the C-topic triggering the use of jiù, and
the predicate following jiù is in focus. A rough spell-out of the infor
mation-structural effect of this is ‘At seven o’clock he was in his office, and
there is another point in time at which he had not yet been in his office,
but somewhere else’. That is exactly what we need to match context 1,
egated universal quantification over a domain of alternatives is easily
traceable, and no evaluational component whatsoever is present.

Let us quickly demonstrate the same for (71). This sentence, by
presupposition, excludes the possibility that Little Wang already has enough
after some smaller portion, let us say, half an apple.\(^{17}\) This is the impact
of the special reading of the focus or C-topic interacting with jiù, and this
impact can be demonstrated in both contexts. The sentence may, moreover,
be used in contexts in which the focus value is independently con
sidered little, and that makes it apt to appear in context 2.
The preceding discussion has helped to establish an important point. It
is not just the case that no evaluational component need be present in the
interpretation of focus values in jiù-sentences; even if evaluational read
ings are induced contextually, the “direction” of evaluation is independent
of the “direction” of excluding alternative sentences: Old Wang in context
2 of (70) is not as late as usual, but some earlier point in time is excluded
by presupposition; Little Wang does not eat as much as one might expect
in a situation like the one depicted by context of (71), but some smaller
amount of food is excluded as being enough to make him have enough.

There is an interesting group of examples which belong in this context.
The more voluminous dictionaries never fail to mention it, but apart from
Paris (1981: 276) and Biq (1984: 91), researchers in Western Chinese
linguistics tend to neglect it; cf. the two examples in (72) and (73) ((72)
has already been presented in section 2.2.1).

(72) \( NT \ yī-CL \ jiù mǎi yībāi-jīn dà báicài \ldots \).
you 1-CL:time jiù buy 100-CL: pound big cabbage
‘On a SINGLE OCCasion you are buying as much as A HUNDRED
POUNDS of cabbage, \ldots’ (cf. h:x: 346)

\(^{17}\) Higher values are trivial, and thus not considered: If one has enough after one apple,
one will also have enough after eating two apples in a row.
If sentences as in (72) and (73) are treated at all, the discussion concentrates on the focus value which follows jiù. If considered that way, the use of jiù is truly enigmatic; recall that there is a use type of jiù in which the focus must follow jiù, it may be translated as only, and with this use type the focus value is always lower or smaller than some alternative value (cf. the presentation of the focusing use type in section 2.2.5). Here, a focus follows jiù, but its value is higher than contextually relevant alternative values. How can hearers tell the difference between sentences in which they are supposed to exclude higher values (focusing use type) from those sentences in which they are supposed to cancel lower assumptions? The answer is simple: Jiù in (72) and (73) does not relate to the foci following jiù, but rather to the focus values (or C-topics) preceding it. This can be tested: If one drops yi-ci ‘on one occasion’ and mái yi-pi huō ‘sell one batch of goods’ in (72) and (73), we get the only-readings of the focusing use type, and nothing else (unless the context is rich enough to allow for implicit C-topics as discussed in subsection 4.2.5 above): ‘you are only buying a hundred pounds of cabbage’ and (s)he has only made 3,000 Kuai, respectively. In this case non-parametric, focusing jiù really interacts with the foci following it.

We can now tell jiù as in (72) or (73) apart from the focusing use type of jiù, but how do the sentence meanings of (72) and (73) relate to the function of parametric jiù, i.e. reflecting negated universal quantification over domains of alternatives? Intuitively, what jiù in both cases is involved in is expressing that so much is done or achieved with so little. Can quantification and intuition be matched here?

For a start, it is important to see that what makes sentences such as (72) and (73) so special is the fact that the relevant focus values are inherently or contextually minimal: yi-ci ‘a single occasion’ as in (72) and yi-pí ‘one batch’ as in (73) are the smallest possible values that are either logically possible or contextually relevant. If we substitute higher values for the extreme values, we get well-behaved sentences which do not require any special scrutiny; cf. (72’) and (73’).

(72’) Nǐ ērsīl-ci jiù mái-le yībāi-jīn dà bái tāi
you 20-CL-time JIU buy-PRF 100-CL-pound big cabbage
‘On TWENTY OCCASIONS you bought A HUNDRED POUNDS of
cabbage (altogether).’

Contrary to the real-world situations covered by (72) and (73), (72’) and (73’) are not special: Buying five pounds of cabbage each time you go to the grocer’s shop is not very much if you cook for a big family; likewise, if earning 3,000 Kuai with a single batch of goods is a lot, earning the same with ten batches will be an average result, or even below average. The focus-semantics we assume to be the trigger of the use of jiù now says: On twenty occasions the addressee of (72’) bought an accumulated hundred pounds, and it is not true of all alternative numbers of occasions that the addressee bought an accumulated hundred pounds of cabbage on these occasions. Probably, the excluded alternatives are all occasions starting from the first to the 19th, and only on the 20th occasion has our cabbage friend reached the 100-pounds limit. This need not be the case, though. In some not too realistic world in which the grocer calculates people’s accumulated cabbage purchases every fifth time they buy cabbage, the limit may well have been passed on the 16th or 17th occasion, and (72’) would still be a good sentence (I will return to this kind of indeterminacy in subsection B. below). The same applies to (73’): Probably the 3,000-Kuai limit was reached in the course of selling the tenth batch, but it may also have been reached in the course of selling the eighth or ninth batch. So at least one alternative sentence with a number of batches lower than ten is false, and our focus-semantic requirements are met.

We are now in a position to understand in what respect sentences like (72’) and (73’) differ from sentences like (72) and (73). In (72) and (73) the lowest possible scalar values, which are in focus (or may alternatively be C-topics), relate to very high scalar values in the predicate. Minimal inputs (i.e. the narrowest possible restrictions of the predications) still yield results that are extraordinarily high. In these extreme cases the domain of quantification does not have any members which are not entailed by the asserted sentence, and which are true at the same time: ‘You are buying (as much as) a hundred pounds of cabbage on zero occasions’ is the only possible alternative, it is surely untrue, and the requirements for using jiù are thus met. The application of this reasoning to (73) is analogous: The only relevant alternative sentence would be something like the Mandarin counterpart of By selling zero batches of goods (s)he has made 3,000 Kuai. Again, this is untrue, and the –V-component of the focus meaning is attested. I believe that no more discussion is needed to account for cases like (72) and (73) which, at the beginning, appeared to
be so puzzling. A maximum restriction that still warrants a big effect is just a special case of restrictions that warrant some effect.

B. Change of state

By now, examples with temporal and non-temporal foci or C-topics have been discussed, and we have contrasted sentences in which an evaluational component is implied with other sentences that are evaluationally neutral. Points (i) and (ii) have thus been covered, and I have been able to demonstrate that the semantic core of jìù-interpretations assumed here, namely negated universal quantification over domains of alternatives, is compatible with all of these cases. Item (iii) has only been alluded to in the preceding discussion: What is the relationship among the use of jìù and phase quantification?

Sentences denoting a change of state in the course of time are widespread. Although jìù is not an obligatory element in such sentences, it is still very frequent. Consider (74a) and (74b).

(74) a. Jìèjiè lìkè jìn-le chūfāng.
   elder.sister immediately enter-PRF kitchen
   ‘My elder sister entered the kitchen immediately.’

   b. Jìèjiè Lìkè jù jìn-le chūfāng.
   elder.sister immediately JIU enter-PRF kitchen
   ‘My elder sister entered the kitchen IMMEDIATELY.’

Both sentences basically mean the same thing, and the particular information-structure with lìkè ‘immediately’ in focus indicated in (74b) is also possible in the a-sentence. Still, jìù is not obligatory in (74a). What, then, is the impact of jìù in (74b)? By now, the answer is easy to give: It reflects quantification over a domain of alternative sentences and, by presupposition, excludes at least one alternative sentence as false. English versions of alternative sentences are My elder sister entered the kitchen after five minutes or My elder sister entered the kitchen after two hours. At least one of these sentences must be false; in (74b) all of them are false, because lìkè ‘immediately’ signals that the elder sister has entered the kitchen after the shortest possible or contextually relevant stretch of time. Note that this is still compatible with negated universal quantification over domains of alternatives: If no alternative sentence is true, not all alternative sentences are true.

But how can we tell the two kinds of quantification apart then? Would it not just as well be possible to say that jìù signals negated existential quantification? That we really need the less restrictive kind of quantification can be seen by studying stative lexical predicates. Sentence (75) is a good illustration of this necessity.

(75) [Wù-fén zhòng yīhòu]C-topic,
   5-CL.minute clock after
   jièjiè jìù zài chūfāng le.
   elder.sister JIU at kitchen
   ‘[FIVE MINUTES LATER]C-topic, my elder sister was IN THE KITCHEN.’

The time adverbial wù-fén zhòng yīhòu ‘five minutes later’ in (75) may well refer to a point in time at which the speaker’s elder sister has already been in the kitchen for one or two minutes, so the point in time at which the change of state happened (viz. the elder sister’s entering the kitchen), and the point in time identified by the time adverbial do not coincide. We may thus not exclude all (contextually relevant) alternative points in time as being points in time at which the elder sister was not in the kitchen, but just some. If this is so, why, then, is the parlance of jìù as a marker of threshold values (Allerton 1972) or as a phase adverb (Lai 1999) so widespread? A motivation for this descriptive bias is easily found: While many sentences with jìù are indeterminate with respect to the coincidence of the reference time, and the time at which some change of state happens, the lexical or constructional devices assembled in (76) are among the elements to ensure interpretations of which it is true that the change of state invariably happens at a point in time that is characterized unambiguously.

(76) a. (zi) cóng ... (yīlái) ‘since ...’
   b. yī + clause/VP ‘as soon as/once ...’ (lit. ‘one’)
   c. yī + (event,) classifier ‘with/after a single x-type event’
   d. gāng ‘(after) only just’
   e. cái (= aspectual cái) ‘(after) only just’
   f. dēng ... ‘when, after’ (future ref.) (lit. ‘wait’)
   g. yī-huì ‘(in) a moment’
   h. mǎoshàng, lìkè, hén kuài ‘immediately’, ‘immediately’, ‘very fast’

(77) provides sentences which illustrate the use of each of these elements. They have been underlined for convenience.
a' Zicong tamen jin cunzi yilai.
since they enter village ever since
jiu mei yi-tian shi ren amining guo.
JIU not exist 1-CL:day let people peaceful spend
‘Ever since they entered the village, they haven’t left the
population in peace for a single day.’ (ad. Allerton 1972: 153)
b. Ta yi kaizi changang, jiu faxian tianqi leng-gilai le,
(s)he once open window JIU realize weather cold-INCH PRT
‘As soon as he opened the window, he realized that the
weather had become colder.’ (Allerton 1972: 141)
c. Nii yi-yan jiu xuan-zhong-le
you.POLITE 1-CL:glimpse JIU select-hit-ASP
women zu guide zuansi jiezhi.
our most expensive-ATTR diamond ring
‘With a single glimpse you have picked out our most ex-
spensive diamond ring.’ (cf. rp: 3)
d. Gang shang louyi, jiu tingdao
only just go up stairs JIU hear
yi-zhen hangaoji-de zhecheng-sheng
1-CL:wave now.high.now.low-ATTR fight-sound
‘He had only just gone up the stairs when he heard the
sound of fighting, now high, now low.’ (hx: 345)
e. Dongxi caii mai-de, jiu po-le.
thing only just buy-ATTR JIU break-PRT
‘I’ve only just bought this thing, and now it’s already broken.’
f. Dong [dubo jiqi] zhuang-hao la,
wait gambling machine install-ready PRT
wo jiu zouzai zher shou qian!
I JIU sit-at here receive money
‘After [the gambling machines] have been installed, I will sit
here and collect the money!’ (rp: 47)
g. Maa yi-huir jiu hui-lai le.
mum 1-CL:moment JIU return-come PRT
‘Mummy will return in a moment.’ (rp: 1)
h. Wo mashangle/khen kuai jiu qi.
I immediately/immediately/very fast JIU go
‘I’ll go there immediately.’

The list in (76) is by no means complete. It merely gives an idea of the
diversity of temporal elements and constructions which make reference to
a point in time at which some change of state happens. I have not indi-
cated where the foci or C-topics in the above sentences are located, but it
should have become clear by now that the use of jiu presupposes some
preceding element that is distinguished from the point of view of informa-
tion-structure.

To conclude this long section, we may summarize as follows: In spite
of descriptive traditions which stress evaluational, temporal, or phase
aspects of jiu-sentences, it can be shown that all of these aspects only
enter the picture by way of an interaction of jiu’s focus semantic function
with specific contextual embeddings.

4.2.7 Markedness relations

In the course of determining the phenomena which each analysis of pa-
rametric jiu should cover, it was noted in section 4.2.1 that jiu is com-
monly analyzed as or felt to be the unmarked member in an opposition
with caii. The proposal defended here can easily accomodate this fact. If
parametric caii reflects negated existential quantification over domains of
alternatives, and if parametric jiu reflects negated universal quantifica-
tion over domains of alternatives, then all else being equal, sentences with
caii should entail their counterparts with jiu.

To see this, let us first study the purported entailment relation in the
context of normal quantification with no focus semantics involved.

(78) a. No friend talks to me.
b. Not all friends talk to me.

(78a) entails (78b). Of course, in a situation in which no friend talks to
me I will usually abide by the Maxim of Quantity and use the more
restrictive sentence (78a) to state unequivocally that there is not even a
single friend who wants to communicate with me, but this situation is
also covered by what (78b) means: \( -\forall x q(x) \) entails \( -\exists x q(x) \).

Now consider an example in which the entailment relation concerns a
situation which is of the by now familiar focus-semantic kind.

(79) a. MEIJUN LAI-de shihou, wo caii kaiishi shao fan.
Meijun come-when I CAII begin cook rice
‘I did not start cooking until MEIJUN CAME.’

(79b) entails (79c). If
Now doubt: (79a) entails (79b), and this is due to the fact that the informa-
tion-structurally distinguished categories preceding caii and jiu, viz. the
time adverbials, quantify over domains of alternatives in ways that
amount to negated existential quantification in (79a), and negated universal quantification in (79b). I will return to this kind of entailment relation in section 4.4. Our conclusion here must be that the markedness intuition shared by several authors falls out for free from the analysis proposed here, because the focus quantificational type relating to cāi is but a special case of the focus semantic type relating to jiù.

4.2.8 ‘The jiù of twin variables’

The ‘jiù of twin variables’ (cf. section 2.2.1.D) occurs in a special construction. This construction is under scrutiny in the present section, and we will check whether our account of jiù’s function here, too.18

Sentences in which the ‘jiù of twin variables’ as in (80) and (81) is used have the characteristics in (82).

(80) Nǐ xiàng gèn shéi jiàn miàn, jiù gèn shéi jiàn miàn. you want with who meet JIU with who meet ‘Meet who you want to meet.’

(81) Zhè-ge zhī zhīdīn-giang zēnmé xié, this-CL character dictionary-in how write

jiù zēnmé xié! JIU how write ‘Write the character as in the dictionary.’

(82) i. In a complex jiù-sentence made up of a subordinate clause and a following superordinate clause, two occurrences of the same wh-word/indefinite pronominal are distributed over the two clauses.

ii. The wh-words/indefinite pronominals are interpreted as variables that are bound by a (covert) universal quantifier.

iii. If a value assignment yields a true subordinate clause, the superordinate clause with the respective value of the variable will also be true.

18 I am not aware of any previous treatments of these constructions in the literature on jiù. Paris (1981: 286ff) cites examples of what is called the ‘jiù of twin variables’ here, but she does not analyze them. Both Cheng & Huang (1996) and Lin (1996: ch. 5) discuss the semantic interpretation of so-called ‘donkey anaphora’ in Chinese sentences of the twin-variable type, but apart from a short consideration in Lin (1996: 208), they take no interest in the function of jiù. The terms ‘donkey anaphora’ and ‘donkey sentences’ make reference to the kind of examples that were first discussed in the literature to analyze such sentences: If a farmer owns a donkey, he beats it the best-known example (for a selection of the considerable number of relevant references, cf. the literature cited in Cheng & Huang 1996 or Lin 1996; the origin of the whole discussion dates back to Heim 1982 and Kamp 1981, with their work, in turn, relating back to Lewis 1975).

iv. The values of the bound variables are shared referents of the situations denoted by the superordinate and the subordinate predications.

v. Translational equivalents in English are usually sentences with indirect or free relative clauses, i.e. relative clauses that have no (overt) constituents in the embedding clauses from which the relative clauses are dependent.19

(82i) is sufficiently illustrated by the underlined wh-words/indefinite pronoun expressions shéi ‘who/someone’ and zēnmé ‘how/in some way’ in (80) and (81).20 (82ii-iv) state that (80) and (81) are read as (80’) and (81’)(this amounts to Cheng & Huang’s 1996 analysis).

(80’) ∀x [you want to meet xHUM] [meet xHUM/]
i.e. ‘Meet all those people that are such that you want to meet them.’

(81’) ∀x [this character is written in an xMAN-manner in the dictionary] [write this character in an xMAN-manner/]
i.e. ‘Write this character in accordance with all those manner specifications that are such that they are used in the dictionary.’

Apart from introducing the variable, our wh-words/indefinite pronouns pre-select a type of value: The variable introduced by shéi only ranges over human beings, and zēnmé-variables only have manner specifications in their domain. This is captured by the subscripts in (80’) and (81’). The variables are bound by the unselective universal quantifier ∀, the second element in the tripartite quantificational structures is the restrictor, and what amounts to the main clauses in (80) and (81), is the second argument of the quantifier structure in (80’) and (81’), viz. the nuclear scope.

19 Cheng & Huang (1996: 158–160) argue against the idea of subsuming the construction under discussion here under the heading of correlative constructions, with a correlative construction being a kind of ‘free relative clause’. Their arguments certainly show that the construction itself does not have the typical properties of relative clause constructions. It seems safe to say, however, that the quantificational properties of free relatives/correlatives are sufficiently similar to those of the Mandarin sentences discussed here to conclude that a comparable function nests in different structural environments.

20 I will not discuss the true categorical nature of words like shéi or zēnmé here. Despite the fact that they are used as question words in most contexts it is probably more adequate to classify them as indefinite expressions. For a generative treatment of this Chinese class of words in terms of polarity items cf. Cheng (1997: ch. 4); Haspelmath 1997 delivers the typology-based discussion of problems of polysemy that crop up with regard to such expressions.
If the analyses in (80') and (81') are correct, and if it is, consequently, universal quantification that plays a major role in sentences characterized by the 'jiù of twin variables', why, then, should jiù be used, and even obligatorily so, in (80) and (81)? Recall that my main claim concerning the interpretation of jiù predicts negated universal quantification over a domain of alternatives, i.e. \( \neg \forall \) instead of \( \forall \).

To deal with this seemingly paradoxical situation, consider (81'') next. The only difference with regard to (81) above is that in (81'') information-structural information is added: The focus preceding jiù is marked explicitly.

(81'') Zhe-ge zì zìdǐān-shàng zhènme xié, this-CL character dictionary-in how write
nt jiù zhènme xié!
you JIU how write
'Write the character as in the DICTIONARY.'

This sentence may be uttered in the context of an argument about the correct way of writing a specific Chinese character. The addressee, perhaps a foreign student, has written a character in a faulty way, and he tries to argue that he once saw it written this way in a letter from a friend. The speaker of (81'') is sick of arguing any further, and resorts to the authority of a dictionary. In this context, the complete situational meaning of (81'') can be spelled out as 'Write this character as in the dictionary, and there may be other places apart from the dictionary which are such that there, too, the character is written in a way in which you should write it, but there is at least one place, namely your friend's letter, in which the character is written in a way in which you should not write it'.

This amounts to negated universal quantification over focus alternatives: Not all alternative sentences are true. This reasoning implies that the use of jiù in such sentences is not tied to the twin variables in any direct way. But why, then, is the use of jiù absolutely mandatory in sentences such as (80) or (81)? Recall that ordinary jiù-conditionals that have no explicit conditional markers like ruguō 'if' or yěshì 'if' still yield acceptable juxtapositions in many cases; cf. (83).

(83) a. Ni lái, wǒ jiù qu.
you come I JIU go
'If you come I will go.'

b. Ni lái, wǒ qu.
you come I go
'You come, I go.'

(83b) is fine as a juxtaposition of two main clauses, although jiù has been dropped. The same is impossible with the 'jiù of twin variables'. Well, not quite. We do get readings if jiù is dropped in (80) and (81):

(80'') Ni xiāng gèn shèi jiàn miàn? Gèn shèi jiàn miàn?
you want with who meet with who meet
'Who do you want to meet? Meet who?'

(81'') Zhe-ge zì zìdǐān-shàng zhènme xié? Ni zhènme xié?
this-CL character dictionary-in how write you how write
'How is this character written in the dictionary? How do you write it?'

As expected, subordination is lost; simultaneously the twin-variable reading disappears, as well, and we are left with two questions in which each wh-word/indefinito pronominial gets bound separately by a question operator. The answer to the question why jiù is necessary is thus evident: Unless we can construe the first clause as embedded, there is no way of having both variables bound by the same unselective quantifier, because its scope should be limited to a single main clause. Jiù, by way of requiring a preceding focus or C-topic in the same sentence, ensures precisely this embedding, and that makes it obligatory if we want to preserve the twin-variable reading.

Now that the function of parametric jiù in this kind of Mandarin 'donkey'-sentences has been clarified, let us briefly apply these findings to the other examples from section 2.2.1.D. The respective survey is given in (84) through (88). The b-portions provide the semi-formal tripartite structure notations along the lines of Cheng & Huang (1996) and Lin (1996). In (84b) through (86b) I use indices to show what kinds of things \( x \) is restricted to range over depending on the wh-word/indefinite pronominal used in each case. In the last two examples complex wh-words/indefinite pronominials are used which have one of the above variable-words as a part. In these cases the indices refer to the nature of the complex expressions (e.g., although shènme shíhou 'what time, when' as in (87) contains the word shènme, which has a THING-index in (87), its variables range over points in time, therefore the variables in (87) have a TIME-index). The c-sentences, finally, spell out the presuppositions tied

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21 There are 'twin-variable' examples in which jiù is not used. Those sentences all seem to be of the same kind as (i) in that they have xiān 'first' or some other quantifying adverb in preverbal position. This is heavily reminiscent of the generalization stated in section 3.2.1.B.

(i) Shèi xiān lái, shèi xiān chì. (Cheng & Huang 1996: 127)
who first come who first eat
'Who comes first will eat first.'
to each sentence as a jǐu-sentence, all of them relating to some obviously possible context. While going through this list for themselves, readers should keep in mind that the focus-background configurations chosen here are not the only ones possible, but, hopefully, natural ones that contextualize smoothly.

(84) a. Tā āl māi shènme, jǐu Māi shènme. (she) like buy what JIU buy what
   'She will buy what she wants to buy.' (cf. hx: 346)
   b. Vx [she likes to buy xTHING] [she buys xTHING]
   c. She will buy what she likes to buy, and there may be other things that she will buy although she doesn't like to buy them, for instance because she has to buy them, but there is at least one thing she won't buy because she doesn't like to buy it, for instance a silver tea pot.

(85) a. Tā XÜYAO jǐ-ge/dūshāo, jǐu Nà jǐ-ge/dūshāo. (she) need howmany-CL howmuch JIU take howmany-CL howmuch
   'She takes as many/as much as (s)he needs.'
   b. Vx [she needs xNUMAMOUNT (pieces) (of something)] [she takes xNUMAMOUNT (pieces) (of this thing)]
   c. (s)he takes as many/much as (s)he needs, and it may be the case that (s)he even takes more than what (s)he needs, or that (s)he simply takes what (s)he wants, but there is at least one class of amounts which is such that (s)he wouldn't take them, viz. is all those amounts that are less than what (s)he needs.

(86) a. Wǒmen DINGHĀO-le nà-tiān, wǒ jǐu nà-tiān QÙ. we decide-ASP which-day JIU which-day go
   'I'll go on the day that we have decided upon.'
   b. Vx [We have decided in favour of xSORT-day] [I will go on xSORT-day]
   c. I'll go on the day that we have decided upon, and there may be days which are such that we have not made any decision concerning these days, and I might go on some of these days, as well, but there is at least one day, namely the day that we have decided against, which is such that I will not go on this day.

(87) a. Nǐ XÜMĀNG shènme shìhòu zǒu, jǐu shènme shìhòu zǒu. you want what time go.away JIU what time go.away
   'You should leave when you want to leave.'
   b. Vx [you want to leave at xTIME] [you should leave at xTIME]
   c. You should leave when you want to leave, and there may be points in times which are such that you do not want to leave at these points in time, but you should leave at these points in

time; there is however, at least one point in time which is such that you should not leave at this point in time, namely the point in time when you don't feel like leaving.

(88) a. Tā āl shàng nà-lǐ jǐu shàng nà-lǐ. (she) like go.up which-place JIU go.up which-place
   '(S)he climbs up where (s)he wants to climb up to.' (hx: 346)
   b. Vx [she wants to climb xPLACE] [she climbs xPLACE]
   c. She climbs up to all those places that she wants to climb up to, and there may be places which are such that she will climb up to them without having a special preference for them, but she will not climb up to a place that she hates to climb up to.

For conclusions concerning the function of parametric jǐu, turn to section 4.6.

4.3 THE FUNCTIONS OF PARAMETRIC DŌU AND YÈ

The functions of parametric dōu and parametric yè will be discussed in a single section. The reason for this is analogous to the related decision taken in ch. 3: Contexts in which parametric dōu or yè are used overlap heavily, and this way of presentation will save us a lot of redundancy. At the same time, we obtain better insights into the systematic make-up of the investigated area.

This section has the following parts. Section 4.3.1 will review the literature on parametric dōu and yè. In section 4.3.2 I will state my own general view of the facts; the first area of application will be liànleven-sentences. Section 4.3.3 will be devoted to the incorporation of the effects of negative polarity observed in many sentences with dōu or yè. Section 4.3.4 will deal with the most intricate task: The strings of wh-words/indefinite pronouns and dōu/yè which serve to express a certain kind of universal quantification (free choice), and which are not open to an analysis in terms of negative polarity, are to be assimilated to the overall function of parametric dōu and yè. How concessivity comes into play, and why this makes certain adjustments in the semantic account necessary, will be the topic of section 4.3.5. Section 4.3.5.B will point out an interesting fact about the use of dōu and yè in interaction with jǐu. This fact will deliver strong supporting evidence both for the analysis of parametric dōu and yè to be proposed, and for the proposal made for parametric jǐu.
4.3.1 Previous analyses of the function of parametric dōu and yē

Since the classification and the behaviour of dōu is a traditional topic in Chinese linguistics, the amount of literature dealing with it is vast. For this reason, I will mainly concentrate on the more recent publications, and the interested reader is referred to the more complete references in these works. The situation with yē is the reverse: Few publications deal with it in great detail, and yē is usually only randomly noted as a variant of dōu in the liān...dōu-construction or in the wh-word/indefinite-nominal...dōu-construction which expresses a certain kind of universal quantification. I will first look at the main lines of argumentation dealing with dōu, and then turn to yē.

For the discussion dealing with dōu, we have to step back for a moment. The average treatment of dōu in the literature will centre around the question whether several dōu's must be distinguished, or whether all dōu's can, in the end, be related to a single core meaning. By introducing three use types of dōu in ch. 2, I have already taken a stance in this matter. The same general conclusion, namely that what I call the parametric use of dōu must be considered an independent linguistic sign, is also arrived at by Allerton (1972), Sybesma (1996), Zhang N. (1997), or Zhang R. (2000). The opposite view is advocated by Shyu (1995), Lin (1996), Huang (1996), or Mok & Rose (1997). Those approaches dismissing a uniform treatment of all dōu's agree upon the point that parametric dōu is focus-sensitive. From this position, it is but a small step to equate dōu's meaning with that of English even. Allerton (1972), or Zhang R. (2000) claim precisely this. On the side of those researchers who propose a univocal meaning of all dōu's, Mok & Rose (1997) defend the view that dōu's basic meaning is that of English even, and that the other use types are derivative. Huang (1996) relates all uses of dōu to a sum-operator function, while Lin (1996) establishes a theory interpreting all occurrences of dōu as a distributivity operator (but Lin does not discuss even-sentences). I think it has become obvious from this minimal survey of the more recent proposals that in this area there is little hope of a consensus in the near future. What I can do here is the following: I will first collect the major arguments showing that it is probably misguided to try and unify everything.22 I will then move on to recapitulate why the meaning of even cannot be the meaning of parametric dōu (pace Mok & Rose 1997, or Zhang R. 2000), and why Lin's (1996) distributivity operator or Huang’s (1996) sum operator will probably not do, either.

22 I am doing this in addition to the discussion in section 2.5.
only possible reading (with heavy stress on tā 'he'):
‘Even (S)HE has bought that book.’

(94) Lìān TĀ dou mái-le nēi-bēn shū.
even (s)he DOU buy-ASP that-CL book
‘Even (S)HE has bought that book.’

(iv) Differing stress patterns (Alleton 1972, Sybesma 1996, Zhang 1997): While distributive dōu is often stressed, parametric dōu must not be stressed (stressed syllables are underlined in (95) and (96)).

(95) Tāmen dōu lāi le.
they all come PRT
‘They have ALL come.’

(96) Lìān TĀmen dōu/*dōu lāi le.
even they DOU come PRT
‘Even THEY have come.’

(v) Parametric dōu and yě sometimes interchange freely; distributive dōu and yē never do (Alleton 1972, Sybesma 1996, Zhang 1997): Pertinent examples are given in (97) and (98). Note that while the use of yě instead of dōu is possible in (97), the sentence meaning clearly changes. This is a result of yě in (97b) being the focus particle yě (cf. section 2.4.3), and not parametric yě.

(97) a. Tāmen dōu lāi le.
they all come PRT
‘They have all come.’
b. Tāmen yě lāi le.
they also come PRT
‘They, too, have come.’

(98) Lìān TĀ yě/*dōu lāi le.
even (s)he YÉ/DOU come PRT
‘Even (S)HE has come.’

(vi) Preposed objects in focus must immediately precede parametric dōu (Sybesma 1996, Zhang 1997): There is no requirement for distributive dōu to be used adjacent to the plural term that is distributed over (cf. (99)). Preposed foci in sentences with parametric dōu must, on the other hand, be adjacent to dōu (if otherwise, a quantificational expression would intervene between parametric dōu and its interacting focus23) (cf. the examples in (100)).

23 Zhang does not restrict her generalization this way. However, liān-foci may well be separated from yě by non-quantificational words; cf. (i).

(99) a. Tā nei-xīī huāshēng dōu yīfǐng chī-wān le.
(s)he that-CL:some peanut already eat-finish PRT
‘(S)he’s already eaten all those peanuts.’
b. Tā nei-xīī huāshēng yīfǐng dōu chī-wān le.
(s)he that-CL:some peanut already all eat-finish PRT
‘(S)he’s already eaten all those peanuts.’

(100) a. Tā liān NÉI-XIÉ HUĀSHĒNG dōu yīfǐng chī-wān le.
(s)he even that-CL:some peanut DOU already eat-finish PRT
‘(S)he even already ate THOSE PEANUTS.’
b. *Tā liān NÉI-XIÉ HUĀSHĒNG dōu yīfǐng chī-wān le.
(s)he even that-CL:some peanut already eat-finish PRT
intended: ‘(S)he already even ate THOSE PEANUTS.’

(vii) Singular resumptive pronouns in wūlín-sentences: The inherently plural entities distributed over by distributive dōu are prononomalized by plural terms (if they allow for prononomalization at all) (cf. the underlined pronouns in (101)). This contrasts with wūlín/no-matter-sentences, (see section 2.3.1.E). In these sentences, resumptive main clause pronouns corresponding to the wh-words/indefinite pronominals of the subordinate clauses must be singular (cf. the underlined pronouns in (102)). If the dōu in wūlín-sentences is a parametric dōu – and I assume this to be the case – this is not a surprise. If it were distributive dōu, this fact would be in need of an explanation, because the denotation of the entity triggering the use of distributive dōu should be (inherently) plural.

(101) Quān bān dōu shēng bīng le, tāmen/*tā dou lāo dōu īl le.
whole class all fall ill PRT they/(s)he all pull belly PRT
‘The whole class has fallen ill, they all have diarrhea.’

(102) Wūlín, ni yào qīng nā-yī-ge rén,
no matter you invite which-1-CL person
wǒ dōu huān yīng tā/*tāmen.
I DOU welcome (s)he/they
‘No matter which person you will invite, I will welcome him.’

I hope that even if not every reader subscribes to each argument, most readers are convinced now that a parametric dōu-word and a distributive dōu-word should be distinguished. This does not tell us anything positive about the function of parametric dōu yet. Let us thus turn to the propos-
als concerning the basic meaning or function of dōu. Alleton (1972), Mok & Rose (1997), Zhang R. (2000), and probably also Sybesma (1996) opt to analyze dōu as a word meaning 'even'. In the discussion concerned with the overall category assignment and function of parametric cái, jīu, dōu and yě in section 3.4 I have shown that this is not an attractive solution. Mandarin has good even-words behaving the way we expect a focus particle to behave; these words are lián and shènzhī(yǔ). Since, if lián is used, either dōu or yě must cooccur, the even-semantics is already encoded by lián.

Huang (1996) proposes to treat all dōu’s as sum operators on events. This is to say that dōu signals a plurality of events of a single type. Huang’s analysis of Mandarin even-sentences attempts to apply the sum operation to the set of entailed propositions. Consider (103) taken from Huang (1996, section 3.3.1).

(103) Lián Zhāngsān dōu juān-le yìqiān-kuài qián.

‘Even Zhangsan DOU donate-ASP 1,000-CL:MU money.

‘Even ZHANGSAN donated one thousand dollars.’

Huang points out that (103) entails that somebody else has donated money. She goes on to argue that the sum operation applies to the events of donating that are relevant in the context in which (103) is uttered. Although I sympathize with the idea that the use of dōu has something to do with the plurality of events that are implied by (103), I see no way to apply Huang’s sum operation smoothly. The obstacle is the following: Huang does not pay any attention to the fact that the plurality of events that she has in mind is only given on the information-structural level. This level is, by itself, not part of the ordinary meaning of sentences (recall that researchers such as Rooth 1985 or Büring 1997 assume focus interpretations that are calculated alongside the ordinary interpretations of sentences). In other words: The plurality Huang refers to is not part of the denotation of Zhāngsān, or the whole of (103). This contrasts with the usual distributive cases as, for instance, in (99) or (101) where the denotations of nǐ-xiē huāshēng ‘those peanuts’ and quàn cūn ‘the whole village’ are (inherently) plural. Huang does not seem to explain exactly how, and on what level of interpretation, the sum op-

erator applies. I have to admit, though, that Huang’s proposal is, among all other proposals, closest to the idea that I will elaborate on in the subsequent sections.

It has been mentioned before that parametric yě has received far less attention in the literature. Apart from Alleton’s (1972) study, I know of no other discussion of comparable length. Her French translations of parametric yě are ‘même, pourtant’ (‘even, nevertheless’). This choice is both clear-sighted and evasive. Its clear-sightedness lies in the fact that these translational options cover the distinct ranges of even-semantics and of concessivity. What this choice of words evades is to take a position with regard to the category question: Même is a focus particle, and pourtant is a main clause adverb relating to concessive antecedents. We have seen in section 3.4 that both of these categorizations are probably on the wrong track. What we have to keep in mind, though, is the fact that an account of the function of parametric yě must be liberal enough to accommodate both concessive semantics and even-semantics, including the semantics of even-if-sentences. A respect in which Alleton’s results coincide with my findings is that it is justified and necessary to separate the ordinary ‘also’-uses of yě from yě’s parametric uses (see the dicussion in section 2.4.3).

Huang’s (1996) sum operator function for yě faces the same problem as her dōu-proposal because it is not clear to me on what level of interpretation the sum operation she assumes to be characteristic of all yě-uses really applies. Furthermore she does not attempt to restrict her account in any way which would allow one to predict which kinds of sum operations are the most extreme ones that can still be performed by yě.

If we summarize the problems discussed in this section, and the ones familiar to us from ch. 2 and section 3.3, our agenda for the elucidation of dōu’s and yě’s functions in their parametric uses should include at least the following points:

(i) It should be demonstrated how dōu and yě come to be used in lián-even-sentences; their interchangeability should follow from the account.

(ii) It should be demonstrated how dōu and yě come to be used in sentences involving negative polarity items in focus; their interchangeability should be derivable.

(iii) The encoding of a special kind of universal quantification by using strings of wh-words/indefinite pronouncements and dōu or yě should be explained; again, the observed interchangeability in many contexts should be taken care of.

24 I am not seriously considering presenting an analysis in terms of a discontinuous morpheme here. If such an attempt were made we would, among other things, give up the option to treat the dōu in sequences of wh-words/indefinite pronouns and dōu on a par with the dōu in the lián…dōu-construction.

25 Most researchers would say that (103) presupposes that somebody else has donated money. At the moment, this does not matter.
The use of dōu and yě in sentences with elements translating as no matter should be explained.

Yě's ability to occur both in even-(if)-contexts, and in concessive contexts should be derived; the fact that dōu is barred from concessive contexts should likewise follow from its analysis.

We ought to say something about the fact that dōu, as opposed to yě, is barred from sentences in which a focusing jiu-subordinator (see section 2.2.6) is used.

In the following sections I will work on these issues one by one.

4.3.2 Parametric dōuyě and universal/existential quantification over domains of alternatives: the case of liān/even-sentences

In liān-sentences as in (104) dōu and yě interchange freely.

(104) a. Wōmen liān FĀN dōu/yě bù chī. we even rice DOU/YE not eat
  'We don't even eat rice.'

b. Liān BŪZHANG dōu/yě hui lái. even minister DOU/YE will come
  'Even THE MINISTER will come.'

In order to account for the occurrence of dōu and yě in (104), we will have to say something about the meaning of liān 'even'. The semantics of even is a popular - albeit thorny - issue. Recent relevant publications in theoretical linguistics include Kay (1990), Barker (1991), Lycan (1991, 2001), or Krifka (1995). For Mandarin, Tsao (1989), Paris (1994, 1995), Huang (1996), Liu & Xu (1998) and Zhang R. (2000) have, among others, contributed to the discussion over the past 15 years.

In theoretical linguistics a consensus is emerging which combines the classical insights of Horn's (1969) and Fauconnier's (1975) papers with those of Kay (1990) and Krifka (1995). In Chinese linguistics Kay's work has also received attention, and most recent analyses are, in one way or another, designed in his terms.

It would be futile to review all of the theoretical and the Chinese discussion here. What I will do instead is concentrate on three points. First, I will discuss the information-structural status of liān-phrases in Mandarin; second, I will present the gist of Krifka's analysis which will then be put to use for our Mandarin case; third, I will discuss the theoretical value of scales of likelihood in the discussion of the semantics of even/liān. After this more general discussion, I will turn to dōu and yě, and show why they must be used in liān-sentences. The section will conclude with a first version of the descriptive generalizations concerning the function of parametric dōu and yě.

Liān-phrases in Mandarin have been claimed to be foci (e.g. Paris 1994), topics (Tsao 1989, Liu & Xu 1998), or neither (Zhang R. 2000). The problem with these terms is that, within Chinese linguistics, there is no received view of how these different notions should be defined. To simply say pre-theoretically that topics encode "old information", whereas foci encode "new information" does not lead anywhere. This can easily be demonstrated with the help of an English every-day example as in (105).

(105) The shocking news had been reported to the government, but in the first couple of minutes even the Prime Minister couldn't say a word.

In (105) the Prime Minister has been introduced into the discourse by way of mentioning the government in the preceding main clause. Still, Prime Minister is preceded by even, and most linguists would say that Prime Minister is a focus in (105), even though it is an established discourse referent. The terms "old" and "new" information, if understood non-relationally, are simply too imprecise to be of any use. What really matters for a semantic focus notion as, for instance, Gundel (1999) characterizes it, is not whether a discourse referent is newly introduced in the discourse, but rather whether the combination of the focus with its background constitutes new information. Thus, in (105) the first couple of minutes x couldn't say a word is the background, and it is non-given information that inserting the Prime Minister for x yields a true sentence. This fact is entirely independent of the fact that in the discourse context in which it is embedded in (105), couldn't say a word is probably likewise non-given information. In a dynamic semantics/pragmatics this simply means that the calculation of the impact of even in sentence (105) cannot be successful until x couldn't say a word has been added to the common ground.

With this understanding of the term 'focus', the nominails following liān may safely be said to belong to this category. Therefore, I fully subscribe to Paris' conclusion, namely that liān-phrases do not encode topical or backgrounded information.26

26 Again, contrastive topics as treated in more detail in section 4.2.4, may likewise be good categories marked by liān. Zhang R. (2000) follows Liu & Xu's (1998) refutation of a focus analysis of liān-nominails. His arguments are not convincing, though. The first argument takes the incoherency of the following question-answer pair as evidence demonstrating that liān-phrases are bad as interrogative foci. Consider (i):
In the following discussion of Krifka’s (1995) theory, I will not put any emphasis on the formal representation of his work. This amounts to a gross simplification, because Krifka’s theory itself is formally explicit. The natural-language version is, however, sufficient for our purposes.

Krifka assumes that, apart from normal assertions and scalar assertions (to be treated in section 4.3.3), natural languages also have a third kind of assertion, viz. emphatic assertions. Emphatic assertions are defined in such a way that their assertion is semantically stronger than the assertion of any contextually relevant alternative assertion. More specifically, emphatic assertions are both stronger than each of the alternative assertions, and also stronger than all of the alternative assertions taken together. For illustration, let us have a closer look at one of Krifka’s sentences (p. 227f), an instance of what Fauconnier (1975) has called ‘quantifiational superlatives’.

(106) John would distrust Albert Schweitzer!

Krifka claims that the emphatic assertion in (106) means the following things: (i) John would distrust Albert Schweitzer, (ii) he would distrust each of those persons who are less trustworthy than Albert Schweitzer, and (iii) he would distrust all of the less trustworthy people taken together. While the first assertion is truth-conditionally relevant, the other two assertions must be maintained by the speaker in order for the em-
probably, no other kind of meat, either. In the emphatic assertion (107b) the proposed object alone can express exactly the same thing, provided fırø ‘chicken meat’ receives an accent that is strong enough. In both sentences parametric ye or döu are used. The really interesting case is (107c). This sentence is a non-emphatic assertion, and the focus has remained in situ. It is not just the case that liän ‘even’ must not be used (this is due to the post-verbal position of the focus), parametric döu may likewise not be used, and ye may be used, but only in its use as a focus particle meaning ‘also’.29 We can conclude that the use of parametric döu and ye is confined to emphatic assertions, while the absence of liän ‘even’ is not necessarily a hint at a non-emphatic assertion (cf. (107b)). Krifka’s assumption, namely that even just serves to make something explicit that is really given by the fact that even is used in emphatic assertions, is therefore supported by the Mandarin data.

We now have an idea of the impact emphatic assertions and even-words have on propositions. What we have not clarified yet is the function of döu and ye. In view of the preceding discussion, and keeping in mind that the distributive use of döu as illustrated in section 2.3.2 belongs in the wider domain of universal quantification, the solution I want to propose for parametric döu is probably not a great surprise anymore. I think döu should be analyzed as a particle indicating that a certain kind of focus precedes it; the kind of focus in this case is a liän-even-focus in an emphatic assertion; since (liän/even-foci) emphatic assertions allow us to conclude that all the contextually relevant alternative sentences are, by virtue of their relative semantic weakness, likewise held to be true, we are dealing with universal quantification over the domain of alternatives. In accordance with the discussion in section 3.4 we are not allowed to say that döu marks or induces the focus readings, it only reflects them. Our descriptive generalization may thus be stated as in (108).

(108) a. Döu is an agreement marker; the verbal background agrees with a semantically specific focus.

b. Among all the possible alternatives to döu-sentences that only differ with regard to the focus value, the pragmatically relevant set of alternatives is considered, and it is presupposed or entailed that all of these alternatives are true.30

If we direct our attention to ye, there are two obvious candidates for an analysis of its function. We might either say that, since ye may interchange freely with döu in emphatic assertions of the kind discussed above, ye’s function is identical to döu’s function. Or we might say that ye’s function as a parametric agreement particle resembles the function of the focus particle ye ‘also’ in all the relevant respects. Ye ‘also’ as a focus particle forces a specific interpretation onto foci such that among the domain of contextually relevant alternatives to the asserted sentence at least one alternative is presupposed to be true: if I say Fred also had A BISCUIT I am presupposing that he has eaten something else, as well.

Which analysis is correct? From the point of view of language change the second option should be given precedence. It is not an unpalatable assumption to say that the parametric use of ye has developed out of the focusing use of ye. If we adopted this option, only a re-categorization of ye’s function from a focus marker to a focus-agreement marker would have been required while the focus interpretations could have remained unaltered. From the point of view of the identical distribution of döu and ye in the liän...döu/ye-construction, we would probably opt for the first type of analysis which assimilates the function of parametric ye to that of parametric döu.

Here is a way to have the cake and eat it: Universal quantification over the (non-empty) domain of alternatives entails existential quantification over the domain of alternatives, i.e. ye’s inherited focus semantics is trivially true in all those contexts in which parametric döu may be used in emphatic assertions with liän-foci. Consider the example in (109).

(109) Lào Lì liän XINGQIÈN döu/ye gōngzuò
‘Old Li even Sunday DOU/YE work
‘Old Li works even on SUNDAYS!’

(109) asserts that Old Li works on Sundays, and liän and the emphatic assertion type allow us to conclude that Old Li works on all other days of the week (under consideration), too. The descriptive generalization in (108) thus covers the use of döu in this sentence. It is true at the same time, though, that liän and the emphatic assertion type of (109) allow us to conclude that Old Li also works on at least one day other than Sunday. This is the quantification type going along with ye’s inherited focus semantics. That is, although the inherited quantificational type of parametric ye is semantically weaker than that of parametric döu, it is never contradictory to exchange ye for döu in an emphatic assertion with an entailment is the correct notion. I will assume that entailments and presuppositions can, on some level of analysis, be treated alike.

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29 See section 2.4.3 for discussion.

30 The majority of researchers would say that in even-sentences, the truth of alternatives is presupposed, and not entailed, because the implicational facts remain stable in protases of conditional clauses. Further down, we will see that in other contexts en-
even-focus. I think this can account for the observed interchangeability of  
dōu and yē without fully assimilating yē to dōu, and further support for  
this solution will be gained from cases discussed below in which this  
interchangeability does not exist (cf. section 4.3.5.B).  
The first version of yē’s descriptive generalization is stated in (110).  

(110) a. Yē is an agreement marker, the verbal background agrees with  
a semantically specific focus.  
b. Among the possible alternatives to yē-sentences that only  
differ with regard to the focus value, the pragmatically relevant  
set of alternatives is considered, and it is presupposed or  
entailed that at least one of these alternatives is true. (to be re­  
vised)\(^{31}\)  

Before including sentences with negative polarity items into our analysis  
in the next section, I shall insert a short digression on the relationship  
between semantic strength and likelihood or probability.  

It is common to find the following argument in the literature on even or  
equivalent words in other languages: An even-focus marks its focus as  
the most unlikely or surprising candidate to combine with the background  
yield a true assertion. It is thus argued that the sentence Even John  
came to the party says that John was the least likely or most surprising  
person to come to the party. From the fact that the most surprising, or  
the least likely assertion from among all contextually relevant alternative  
sentences is asserted, one may conclude, the argument goes, that the  
alternative sentences are true as well. If even John has come, Bob, the  
regular party-goer, is sure to have joined the party as well.\(^{32}\) I believe  
that this argument involves an outright fallacy, and it can easily be shown to  
be inadequate. Neither is the assertion of even-sentences restricted to  
unlikely situations, nor is it licit to conclude from probabilities what  
single cases should be like. To see that improbability is not a necessary  
condition of the use of even consider (111).  

(111) With our teacher being so friendly it was not a surprise that even  
JOHN passed the exam.  

This sentence states explicitly that the embedded even-clause does not  
denote a surprising situation, and still it does not have a contradictory  
flavour to it. As with the parallel argument concerning cāi in section  

\(^{31}\) See footnote 30.  
\(^{32}\) Huang (1996, section 3.3.1) presents a version of this argument in her study on dōu.  
Here is a short quote: ‘... the event... is the most surprising event, which entails that  
less surprising events of the sort have taken place’.  

4.1.1, I see no theoretically defensible way of maintaining the improb­  
ability claim in view of such examples.  
Provided there was a way to maintain the claim, the argument would  
still have to be rejected because probabilities do not usually warrant the  
statement of entailments. Recall that the argument says that if the most  
unlikely case is true, then the less likely ones will also be true. This is not  
cogent, to say the least. Suppose the weather forecast says that the sun  
will probably shine tomorrow and that it is extremely unlikely that there  
will be thunderstorms. In the end it turns out there are thunderstorms. Am  
I allowed now to conclude that the sun is shining during the thunder­  
storm, or before it, or after it? Of course not. Likewise, if even John has  
come to my party, and I know that John really hates parties, can I be sure  
then, without checking by myself, that Bob is already around? Surely not,  
because Bob may be sick, or he may have gone to a different party.  
Probabilities can only be stated with regard to large numbers of events,  
and real-world probabilities are only stated because if only a single case  
is considered, the underlying regularity cannot be discovered. It is only  
with the extreme case of probabilities, namely probabilities amounting to  
1 (i.e. 100% of all cases are alike), that (quasi-)entailments concerning  
single cases can be stated. Because of these two arguments, the direct  
link often claimed to hold between even-semantics and assumptions of  
probability must be discarded.\(^{33}\)  

In this section the interpretation of lián/even-foci has been tied to the  
interpretation of emphatic assertions as defined by Krifka (1995). Com­  
pared with the set of contextually relevant alternative assertions that only  
differ with regard to the focus value, emphatic assertions are semantical­  
ly stronger, both with regard to each of the alternatives, and with regard to  
all of the alternatives taken together. This amounts to the possibility of  
concluding, within a given common ground, from the truth of the asserted  
sentence to the truth of all of the alternative sentences. This type of quan­  
tification over the domain of alternatives – universal quantification – is  
reflected within the verbal complex by the use of parametric dōu. Dōu  
may freely interchange with yē since the quantificational type reflected by  
yē – existential quantification over the domain of alternatives – is entailed  
by the quantificational type related to dōu. The widespread attempt to  

\(^{33}\) This is not to say that there is no link at all between likelihood and even-semantics.  
Krifka (1995: 228) points out the following: If two propositions \(p\) and \(q\) can be com­  
pared in terms of semantic strength, and if \(p\) is less likely than \(q\), then \(p\) is semantically  
stronger than \(q\). Stated differently: If we know already that one proposition is semantical­  
ly stronger than the other, knowing which one is more likely means knowing which  
one is semantically stronger.
directly relate the notion of semantic strength to the notion of probability is futile, at least if done in a straightforward way with a probability cline entailing an entailment between the ordered propositions in the domain of alternatives.

4.3.3 Parametric dòu/yè and negative polarity items
Negative polarity is a highly controversial issue in theoretical linguistics. The question how the occurrence and the licensing of expressions like lift a finger, any or at all as in My friend didn’t lift a finger to help me or I haven’t got any time at all is to be accounted for has given rise to debates ever since the 1960’s. I have no genuine ideas of my own to contribute to the discussion, and I will follow Krifka’s (1995) semantic analysis in most points. Before turning to the Mandarin case, I will give a very concise overview of the research tradition which is likewise mainly based on Krifka (1995). Readers whose main interest relates to the Mandarin data might like to skip the subsequent paragraphs. Mandarin data will be discussed in sub-sections A and B.

The problem with negative polarity items is that they may not be used in just any context, and the debate centres around the question what it is that licenses their use. For instance, lift a finger may not be used in the sentence My friend lifted a finger to help me, at least not if the same contribution of meaning is intended as in the negated sentence above. In the same vein, I have a lot of time at all is clearly a deviant sentence. The main dividing line between researchers dealing with the issue may be seen between the syntactic and the semantic faction. The syntax faction argues in favour of an analysis which derives the licensing of polarity items from some semantically void syntactic mechanism. Progovac’s (1993, 1994) work belongs in this category because she treats the licensing of polarity items as a special case of binding. For Mandarin, Cheng (1997) clearly has a syntactic analysis in mind. The original account by Klima (1964) is probably open to both kinds of arguments, but it is presented as a semantic account. He argues that it is, non-surprisingly, negation that licenses negative polarity items. Ladusaw (1979) shows that this analysis is not satisfactory and proposes that downward-entailing contexts license negative polarity items. The semantic notion of a downward-entailing context is characterizable as a context in which the substitution of some element by a semantically weaker element yields a semantically stronger overall expression. If you take the sentence Every first-year student is lazy, and use the semantically weaker expression student instead of first-year student, you get a semantically stronger overall expression: Every student is lazy. You have exchanged a word that is more specific by a word that is less specific, but after the exchange, the whole sentence is true in fewer contexts than the original sentence. (Upward-entailing contexts have the opposite property: If you use student instead of first-year student in Some first-year students are lazy, you obtain a sentence that is less specific and therefore entailed: Some students are lazy). This solution was likewise shown to be insufficient (Linebarger 1980, 1987) because some contexts license negative polarity items without being clearly downward entailing. Heim (1987) defends the downward-entailment approach by making it more precise and by restricting its applicability to specific common grounds, thereby interpreting downward-entailing contexts as dependent on specific common grounds. Kadmon & Landman (1993) as well as Zwarts (1986, 1995) have developed two more instances of semantics-based accounts that I will not deal with here because Kadmon & Landman only deal with English any, and Zwarts’s important insights seem to have been integrated into Krifka’s theory.

A. Weak negative polarity items
The gist of Krifka’s theory is to define three types of assertions, and the differing pragmatics tied to these kinds of assertions are not compatible with just any type of lexical element used to express part of these assertions. The incompatibility arises by way of systematic contradictions between what Krifka calls BFA-structures on the one side, and the pragmatics of the relevant type of assertion, on the other. Those lexemes whose BFA-structures are systematically incompatible with certain types of assertions are considered by Krifka to define the set of polarity items. Take the sentence in (112) as an example (cf. Krifka 1995: 224f).

(112) *Mary saw anything.34

Anything is a negative polarity item, and Krifka assigns BFA-structures to all polarity items. BFA-structures are triples of backgrounds, foregrounds and sets of alternatives to foregrounds. (113) is Krifka’s BFA-triple of anything (p. 219).

(113) anything: (B, thing, {P | P ⊚ thing})

In natural language this comes out roughly as follows: Anything is a lexical item with a lexical meaning (the centre part of the BFA-structure), it relates to alternative expressions of a specific type (the right-hand part), and it combines with a background to yield a proposition (the left-

34 The grammaticality judgement only concerns the reading that requires anything to be interpreted parallel to something.
hand part); B is a function of the syntactic position in which anything occurs or, from a different perspective, a place-holder for specific syntactic backgrounds; thing is the most general property a nominal referent must have in a given context, i.e. all the things in a context must at least allow for the ascription of the property thing, the right-hand part of the triple says that all alternatives to the property thing must be such that they are semantically stronger than thing. i.e. it must be true of all alternative properties that they have the property thing as part of their meanings.

Now we know what the BFA-structure of a polarity item is, but we do not know yet why (112) is bad. Before we can state the reason, we have to look at Krifka’s treatment of the relevant type of assertion. He assumes (112) to be an instance of a scalar assertion because anything is a lexeme that is interpreted with respect to a scale of semantically stronger properties. Scalar assertions such as Mary earns $2,000 usually implicate (by the Maxim of Quantity) that Mary does not earn more than $2,000, although this is, strictly speaking, not a fact that is truth-conditionally relevant. Still, Krifka defines an operator Scal.Assert which includes this implicature as part of its specification: In scalar assertions it is excluded that semantically stronger expressions can be used without a change in the truth value of the sentence. We can now move on to show how the deviance of (112) comes about. On the one hand, this sentence says that Mary saw something which has the property thing (cf. the centre element of the BFA-structure), but on the other hand, Scal.Assert excludes the possibility that Mary saw anything which has a property that is semantically stronger than thing. The problem is that what Mary saw is necessarily definable in semantically stronger terms – no thing is merely a thing whose only property is thing –, and all alternative properties are still properties of things (the right-hand element of the triple), but Scal.Assert says that Mary did not see anything with a semantically stronger property. This is a contradiction. No such problem arises with (114).

(114) Mary didn’t see anything.

(114) says that it was not the case that Mary saw an item with the property thing, and Scal.Assert excludes the possibility that Mary saw anything more specific which is still a thing. No contradiction arises in this case, and that is why (114) is good.

An obvious line of attack against this account would be the following: Why do we end up with bad sentences if it is just an implicature that is in the way? Krifka gives no final answer to this criticism, but one should keep in mind that the deviation of sentences such as (112) is clearly of a different kind than that of sentences such as I sent a letter her. In the case of (112) one might simply say that “a wrong word” is used, and this intuitive judgement can be made precise with the help of Krifka’s solution. In sum, I think it is possible to fully defend Krifka’s approach against this kind of criticism.

The two examples in (112) and (113) have illustrated the general strategy of Krifka’s account, namely to demonstrate that the lexical meaning of polarity items, their prefigure set of alternatives, and the semantics/pragmatics of assertions must converge in a way which does not lead to contradictions. Let us now discuss Krifka’s treatment of those negative polarity items that are relevant in the context of this study.

Krifka, just like other researchers who have dealt with the issue, distinguishes weak and strong polarity items; the strong ones must bear a focal accent. That is why he uses the cover term ‘foreground’ to subsume both kinds of polarity items: Weak polarity items need not bear focal stress, and sometimes they are not even in focus. For none of the Mandarin cases will we have to make use of the option that allows for non-focal polarity items; we can therefore use the term ‘focus’ instead of ‘foreground’, but we should keep in mind that Krifka’s BFA-triples are designed to cover more cases.

B. Strong negative polarity items

(115) is a sentence with a strong negative polarity item (Krifka 1995: 228).

(115) Mary didn’t get anything (at all).

Krifka claims that strong polarity items under stress such as anything (at all) have a BFA-structure that is systematically different from the BFA-structure of weak polarity items. Here is Krifka’s pre-final proposal for anything.

(116) anything (at all): (B, thing, \( \{P \cup P \subseteq \text{thing} \land -\text{min}(P)\} \})

The BFA-triple in (116) says that there must be a syntactic background B for anything (at all) to combine with; what anything (at all) denotes must have the property thing; the set of alternative properties to thing must be semantically stronger than thing and non-minor. The predicate ‘\( \text{min}(or) \)’ is the preliminary part of this BFA-structure, but just like Krifka, I will make use of it here to introduce the main idea. Krifka states that with regard to specific contexts and common grounds, minor entities can be distinguished, i.e. entities which are formally semantically stronger than things, but nonetheless are not considered real representa-
tives of the class of things under discussion. Krifka's example is a piece of chewing gum as a birthday present which, although something that has the property thing, would not be considered a realistic representative of all things that can be given as birthday presents.

To derive the meaning of strong polarity items in context, we will, moreover, have to make use of a different, though familiar type of assertion, viz. emphatic assertion. Recall that Krifka's notion of emphatic assertions has already been introduced in the preceding section. The assertion operator \textit{Emph.Assert} is important here because Krifka restricts the occurrence of strong polarity items to emphatic assertions. They are defined in such a way that they are both stronger than each of the alternative assertions, and also stronger than all of the alternative assertions taken together. Now what is the yield of combining a BFA-structure as in (116) with \textit{Emph.Assert} to spell out the meaning of (115)? Let us check the argument for both conditions of \textit{Emph.Assert} separately. The first condition is that each alternative must be semantically weaker than the asserted proposition. This is indeed the case: The proposition \textit{Mary didn't get a thing} is stronger than any alternative proposition because any non-minor alternative to \textit{thing} would still entail the property \textit{thing} (cf. the right-hand part of the BFA-triple of \textit{ANYTHING (AT ALL)}). The second condition states that emphatic assertions must also be stronger than all of the alternatives taken together. Again, this is so. \textit{Mary didn't get a thing} excludes the possibility that Mary even got the tiniest minor \textit{thing}, and if this is so, this is semantically stronger than all of the alternatives taken together: All alternatives are non-minor \textit{things}, and even if you say that it is true of all kinds of non-minor \textit{things} at the same time that Mary did not get them, it will still be stronger to say that Mary did not even get a \textit{thing}. This is different in (117).

\begin{equation}
(117) \quad \text{\textit{Mary got ANYTHING (AT ALL)}.}
\end{equation}

Here, a contradiction arises in an emphatic assertion: If Mary got a \textit{thing}, then this is not stronger than any of the alternatives, because all alternatives are non-minor \textit{things}, and getting a \textit{thing} does not mean getting a non-minor \textit{thing}. Therefore, we get a systematic contradiction in such sentences.

Now we have everything we need to return to the Mandarin case. But before that let me try to tackle some possible objections that one may want to raise against Krifka's theory.

First, one might ask, what independent evidence is there to assume those non-minor properties? So far, we have only seen that we need them to derive a contradiction in the interpretation of sentences like (117).

Below, we will find that there are good reasons to include something of the kind of non-minor properties into an adequate analysis.

A second objection might point out that \textit{anything} (i.e. a weak-polarity item) and \textit{ANYTHING (AT ALL)} (i.e. a strong polarity item) are assigned different BFA-structures. Should an elegant theory not aim at treating both cases alike, and only derive the differences from the interaction of a single lexeme with different information-structures and/or types of assertions? In order to discuss this point from the right perspective, it is important to see that BFA-structures are not lexical entries. The lexical entry of \textit{anything} is the same as that of \textit{ANYTHING}, both entries centre around the predicate \textit{thing} (which is, of course, itself in need of a definition). As I understand Krifka, BFA-structures are just handy ways of representing pseudo-constant properties of lexical entries in specific linguistic contexts (i.e. in assertions with specific intonation contours). It is not claimed that BFA-structures are units that must be stated as such in any part of the grammar of a language. They are more like a collection of properties that polarity items and some focused constituents must have as a consequence of the very nature of the way they are used. Therefore, it is licit to include in the BFA-structures of polarity items properties that are really derivative of their contexts. Moreover, Krifka's final solution for the difference among weak and strong polarity items will derive the difference compositionally, anyway.

C. Negative polarity items in Mandarin Chinese, and the use of parametric \textit{dōu} and \textit{yě}

I will now treat the different kinds of negative polarity items interacting with \textit{dōu} or \textit{yě}, and I will show what triggers the use of these particles. For this purpose, I will rearrange Krifka's typology of polarity items in a way that fits the Mandarin data best.

The first large class of polarity items are expressions that refer to minimal amounts such as \textit{yī-di} 'a drop' (sub-section D). I will call this class 'negative polarity items of quantity'. Some members of this class relax the criteria of applicability of properties, and it is in this context where the preliminary analysis of minor predicates will be restated in more satisfactory terms. A generic example is \textit{yī-di}ān 'a bit' if used to modify stative verbs.

The second class of negative polarity items is constituted by expressions of a general nature (sub-section E). These expressions will be dubbed 'negative polarity items of quality'. I will note that a sub-class of those sentences with occurrences of a \textit{wh}-word/indefinite pronominal and \textit{dōu} or \textit{yě} belong in this context, and I will develop a sketchy analysis of how their overall meaning can be accounted for in a compositional way.
D. Negative polarity items of quantity

The prototypical instances of this kind of polarity item are object nominals denoting minimal amounts. Cf. the examples in (118) (some of the following examples are old examples from chs 2 and 3).

(118) a. Tā (lián) yì-jú HUÀ dōu/yē shuōbùchūlai.
   (s)he even 1-CL:speech-unit speech DOU/YE not.be.able.to.speak
   'S(h)e couldn’t even say A WORD.'

b. Tā (lián) yì-DI jiù dōu/yē méi hē.
   (s)he even 1-CL:drop wine DOU/YE not.have drink
   'S(h)e hasn’t (even) had a DROP of wine.'

   (s)he hasn’t (even) had ANY wine AT ALL.' (Paris 1994: 249)

Not much theory is needed to analyze these examples, at least not if we restrict ourselves to making plausible the obligatory use of dōu or yē. The negative polarity items yì-jú (huà) ‘one speech unit’ and yì-DI (jiù) ‘one drop (of wine)’ are the smallest possible quantities within their respective domains, i.e. amounts of speech and amounts of alcoholic beverages consumed. It is easy to see, then, that if not even the smallest quantities were involved, no larger quantities were involved either. It is true of all relevant alternative sentences in (118) that the respective amounts of speech have not been uttered (the case of (118a)), or that the respective amounts of wine have not been drunk (the case of (118b)).

Making use of Krifka’s BFA-structures, we would say that the A-parts of the BFA-structures would contain only semantically stronger non-minor predicates. This is precisely the condition triggering the use of dōu: dōu is preceded by a focus, and the interpretation of the focus has it that all alternative sentences are true as well (cf. the generalization in (108)). It is likewise true that, if all alternatives are true, at least one alternative will be true. This licenses (and triggers) the use of yē in (118) in accordance with generalization (110). The same argument applies to the complementation of frequency and duration in (119) and (120) as introduced in chs 2 and 3.

(119) Tā (lián) yì-CL dōu/yē méi lái-guo.
   (s)he even 1-CL:time DOU/YE not.have come-ASP
   ‘(S)he hasn’t even come ONCE!’

(120) Tā (lián) yì-HUÍR dōu/yē zuòbùzhū.
   (s)he even 1-CL:moment DOU/YE unable.to.sit.still
   ‘(S)he can’t sit still for even A SECOND!’

If someone has not even come once as in (119), she is sure not to have come twice or any other number of times, either. If someone cannot sit still for the shortest possible time interval yì-HUÍ ‘one moment’ as in (120), he will likewise not be able to sit still for any longer stretch of time. Dōu and yē are both triggered exactly the same way as above.

Two examples involving verbal measures specific of certain types of actions are given in (121). Semantically, we are dealing with markers of a momentaneouos semelfactive aktionsart encoded by cognate objects, and not with true object nominals in focus.

(121) a. Biérén dōu shuō zhào-de hào,
   the.people all say photograph-CSC good
   tā yì-YÀN yē/dōu bù kàn.
   (s)he 1-CL:glance YE/DOU not look
   'The people all said the photograph was good, but (s)he didn’t even glance at it.' (hx: 620)

b. Biérén dōu zhǐ lè,
   the.people all continuously laugh
   tā yì-XIÀO yē/dōu bǐ xiào.
   (s)he 1-CL:smile YE/DOU not smile
   'All the others kept on laughing, but (s)he didn’t even have THE FAINTEST SMILE on her face.' (hx: 620)

The facts of semantic strength relevant for the interpretation of both sentences are again straightforward. If the person talked about in (121a) did not pay the smallest amount of visual attention to the photograph, it is entailed that he did not pay any larger amounts of attention to it: All contextually relevant alternatives, and thereby also some alternatives, are true such that the licensing conditions of using parametric dōu or yē are fulfilled. Along the same lines, (121b) entails that no stronger or more numerous signs of joy were uttered than are excluded by the assertion.

The negative polarity item of quantity yì-diān(r) ‘one bit’, if used to modify gradable properties in negative polarity contexts, belongs to Krifka’s class of polarity items that relax the criteria of applicability. Consider (122).

(122) a. Tā yì-DIÀN dōu/yē bù lèi.
   (s)he 1-CL:bit DOU/YE not tired
   ‘(S)he is not tired AT ALL.’

b. Tā bǐ lèi.
   (s)he not tired
   ‘(S) he’s not tired.’

Krifka’s argument concerning the interpretation of sentences as in (122a) runs as follows. There is a contrast among sentences as in (122a) and
I will sketch what the general line of an analysis of the overall meaning of such utterances might look like. To see how zài behaves as a weak and as a strong polarity item, contrast (123a) with (123b) (for uses of zài as a non-core member of the set of parametric particles, cf. section 4.5).

(123) a. Wǒ bù zài qū le.
   I not once more go PRT
   ‘I won’t go there anymore.’

b. Wǒ zài yě bù qū le.
   I once more ye not go PRT
   ‘I’ll NEVER EVER go there again.’
   ‘Not even once I will go there again.’ (hx: 716)

(123a) is a sentence in which zài is used as a weak negative polarity item, an analysis that receives some support from the fact that the sentence would be bad without the negation marker bù. (123b) is the stronger version of this sentence. (123a) would be fine in a context in which the speaker talks about a projected change in habits: He used to go to a gambling-house on a regular basis, and now he has decided that he must stop gambling. Two weeks later, it turns out he has gone one more time, but just for five minutes. The speaker may argue that five minutes do not count and that his old statement still holds: I won’t go there anymore, i.e. on a regular basis or for a whole night. If two weeks ago the speaker had said (123b), his behaviour would contradict his asseveration: (123b) does not even allow for the shortest possible visit at the gambling-house, because zài as a strong negative polarity item relaxes the criteria of applicability of what counts as an instance of doing something. A five-minute visit already counts as ‘going to the gambling-house’.

Note that yě-diăn ‘one bit’ as in (122a) is a segment that can be identified with the function of relaxing criteria of applicability. In (123b) we have no such segmental counterpart relating to the changed interpretation. I will readdress this issue below (sub-section E).

The use of yě is easily accounted for in (123b). Yě is preceded by a focalized expression, and since all alternative sentences are such that they are true, there is also at least one true alternative sentence. This licenses and triggers the use of yě. Dōu, however, may not be used in zài-sentences. I have not investigated this fact any further.

Having shed some light on the use of dōu and yě with negative polarity items of quality in Mandarin, we shall now focus on negative polarity items of quality.
E. Negative polarity items of quality

The investigation of Mandarin polarity items of quality will give us the opportunity to make more explicit use of Krifka’s findings as presented at the beginning of this section, and in connection with yi-diānr ‘a bit’. But before turning to the more intricate cases, let us see how the simple ones can be treated. Take the sentence in (124), an old example introduced in ch. 2.

(124) Nǐ méi yǒu shàng chuán,
you not have go up boat
liǎn chuán-de Yīng gī dōu/yē méi kǎndào.
even boat-ATTR shadow DOU/YE not have see
‘You’ve never been aboard, you haven’t even seen THE SHADOW of the/a boat yet.’ (ad. rp: 52)

A paraphrase of the sentence would say that the addressee of (124) does not have any experience relating to boats; (kǎndào chuán-de) yīnggì ‘(see the) shadow (of a/the boat)’ is here used as a negative polarity item denoting the most superficial experience one may have relating to something. All possible alternatives to the meaning of this (only slightly) conventionalized negative polarity item (such as travel on a boat or live on a boat) are such that they are semantically stronger than the negative polarity item because they entail having more than just some minimal experience in this domain. The context coming along with sentence (124), viz. the first clause, displays a natural instance of an element belonging to the set of alternatives of the polarity item: shàng chuán ‘embark’ is an experience relating to boats that is semantically stronger than having the most superficial experience possible.

An example of a similar kind is given in (125).

(125) Dèdào nàme-ge hào chāishi, yī-SHENG yē/dōu bù kēng,
get such-CL good position 1-CL:sound YE/DOU not utter
nǐ dào chènzhìhū yì.
you really know how to stay calm
‘You have managed to get such a good position and you don’t give a SOUND, you’re really good at keeping a check on your temper.’ (hx: 165)

Note first that even though the sentence involves a measure construction (the negative polarity item itself is the measure word/classifier), we are not dealing with a polarity item of quantity: The conventionalized set of alternatives is not made up of larger numbers of speech sounds, but rather of representatives of the general class of more articulate stretches of speech than just single sounds. The negative polarity argument developed for (124) fully carries over.

Another type of sentence which may be treated here is illustrated in (126).

(126) a. Lǎo Sōng Dòng yě/dōu bù dōng.
Old Song move YE/DOU not move
‘Old Song doesn’t even move.’

b. Tā CHTÜ Qǐ yě/dōu chūbushānglái.
(s)he go out breath YE/DOU not manage to breathe
‘(S)he didn’t even manage to breathe.’

We have briefly touched upon these sentences in sections 2.3.1.D, 2.4.1.D and 3.3.1, and it was noted there that only activity verbs, and no stative verbs can enter into this verb-copying structure. One might argue that sentences as in (126) should be dealt with in the context of normal even-sentences as discussed in the previous sections. However, I think it is defensible to insert them here, i.e. in the context of negative polarity items of quality, and not among those of quantity. First, we know already that even-sentences and sentences involving negative polarity items belong closely together anyway. Second, this verb-copying structure is limited to negated contexts, i.e. Mandarin equivalents of sentences like She can even fly! would not be encoded in a comparable construction, but with the help of the focusing adverb shènzhíyì ‘even’ (see section 1.1). Third, and this is the most important reason, the verbs used in this construction are often conventionalized in such a way that it is hard to decide whether Old Song in (126a), for example, really did not move at all, or whether dòng ‘move’ is just used to say that Old Song did not do anything that would be significant in the context in which the sentence is uttered. The same argument applies to (126b).

Ye or dōu must be used in these sentences for the same reason as identified above: Not moving or not breathing is seen as entailing that one does not do anything else. Therefore, all alternatives (and trivially some alternatives) to the asserted sentence are true, and dōu and ye fulfill their known agreement function as stated in (108) and (110).

F. Negative polarity and wh-words

The more complicated instances of negative polarity items of quality are wh-words/indefinite pronounals. The complications come in through several doors. First, there is no consensus in Chinese linguistics on how the different uses of wh-words/indefinite pronounals in Mandarin should be classified. Second, even if researchers could agree upon analyzing a subset or all of Mandarin wh-words/indefinite pronounals as polarity
items, the differences between syntactic and semantic approaches remain. Cheng (1997), for instance, claims that all Mandarin wh-words/indefinite pronouns are polarity items, but she states this from a purely syntactic angle. What I can do here is the following: I will show why an analysis of many wh-words/indefinite pronouns in terms of negative polarity can probably not be evaded, I will present a sketch of a semantic account along Krifka’s (1995) lines, and I will demonstrate why the use of wh-words/indefinite pronouns as negative polarity items of quality goes along with the obligatory use of dòu or yè. Towards the end of the subsection, I will note other uses of wh-words/indefinite pronouns which are not open to an analysis as polarity items, despite the obligatory use of dòu. Their treatment will be deferred until we get to the following section.

Let us begin with the contrasts in (127).

(127) a. Lào Lì méi mài shènmé.
    Old Li not have buy what
    ‘Old Li hasn’t bought anything special.’

b. Lào Lì shènmé dòu/yè méi mài.
    Old Li what DOU/YE not have buy
    ‘Old Li hasn’t bought ANYTHING AT ALL.’

c. Lào Lì mài-le shènme*(?)
    Old Li buy-ASP what
    ‘What did Old Li buy?’

Cheng (1997) translates sentences as in (127a) without the qualifying word special. This is not fully correct because (127a) is true in a situation in which Old Li has bought something, but nothing peculiar. Note that this interpretation is not the result of prolonged linguistic introspection; it is a widely known fact which has made its way into the average Mandarin textbook for foreigners. What counts here is the interpretive difference among (127a) and (127b) (127c) just serves to demonstrate the question-word use of shènme ‘what’ in a context that does not license the use of polarity items as we have defined them here). This difference is highly reminiscent of the contrast between Mary didn’t get anything and Mary didn’t get ANYTHING AT ALL as discussed at the beginning of this section when Krifka’s reasoning was introduced. The robust intuitions concerning the Mandarin sentences have been stated entirely independently of Krifka’s or anybody else’s theories of negative polarity. This seems to me to be good supporting evidence for Krifka’s (and other people’s) distinction of strong and weak polarity items, and it also shows the cross-linguistic relevance of the interpretive differences first shown here to be relevant for English.

Recall how Krifka (1995) derives the overall meaning of sentences with strong polarity items as in (127b). Shènme, the wh-word/indefinite pronoun, would be interpreted as a nominal denoting the property thing, which is true of each thing. The fact that a preposed strong polarity item in focus is used has the consequence that the criteria of applying the predicate thing are relaxed: Things that would not count in (127a) are suddenly considered something. Suppose Old Li goes shopping to buy a big present for his wife, perhaps a diamond ring, or a fur coat. He comes home with nothing but a pair of socks. In this situation the socks would count as something in the interpretation of (127b) because the criteria of applicability of the predicate thing have been relaxed; therefore, this situation cannot be rendered by (127b) because even a pair of socks counts as something. Not so in (127a). If we know Old Li originally wanted to buy a big present for his wife, and only brings her socks in the end, (127a) can truthfully be uttered because the predicate thing, which is only applicable to costly presents in our context, does not apply to socks, and Old Li can, under the weak interpretation in (127a), be said to have bought nothing for his wife, even if he bought socks for her. (127b) is the sentence which is of interest here because dòu or yè must be used. Two things conspire to make their use mandatory: On the syntactic side, the focalized polarity item is preposed, and thereby precedes the structural position of dòu and yè; on the semantic side, the negative context ensures that any alternative predicate semantically stronger than thing would yield an informationally weaker sentence: If somebody has not bought anything at all, he has not bought a fur coat, either.

That much is clear and plausible, but one problem remains: Krifka’s final account derives the relaxation of the criteria of applicability that is necessary to explain the different interpretations of anything and ANYTHING (AT ALL) in a compositional way: anything and ANYTHING are interpreted alike, and the difference comes in through the (implicit) use of at all and the semantics/pragmatics of scalar vs. emphatic assertions. In the case of (127b) I know of no extra word which could be added, and which might be claimed to equal at all in its function. Therefore, we are left with a slightly unsatisfactory situation: Predicates denoting gradable properties as in (122) have a word of their own to relax the criteria of applicability, viz. yídīn(r) ‘a bit’, but for non-gradable properties such as thing, such a word does not seem to exist in Mandarin. Either we try to maintain Krifka’s compositionality throughout and postulate a covert expression of the required kind in (127b), or we stick to the surface. If
the latter option is chosen, two ways are open: Either we accommodate the lexical entry of *shénme* 'what/anything' in a way which allows us to derive two different standards of precision from the entry alone, or we load the duty of distinguishing the two readings onto the differing semantics/pragmatics of assertion in (127a) vs. (127b). In this case a scalar assertion would somehow yield the reading which allows for the purchase of socks, whereas an emphatic assertion would exclude this. I will not try to solve the problem in this study.

Sentences that can be analyzed in the same fashion have been presented in section 2.4.1.F. I will not discuss them in detail here since the general design of the argument should be clear by now. What I will do instead is repeat the examples, add more examples to cover most wh-words/indefinite pronominals of Mandarin at least once, and provide natural language paraphrases of more formal representations for each sentence. Examples (128c) and (128d) are virtually synonymous, the difference among them being the way of encoding temporal frame-settings: In (128c) the negative polarity item *shénme* 'what/some' modifies the noun *shíhòu* 'time', thereby relating to a very liberal system of specification of points in time. In (128d) the points in time are encoded according to the conventionalized 12-hour system, or the 24-hour system.

As regards examples (128f-h), I am not fully confident whether they really belong here or whether they are instances of *no-matter*-uses of wh-words to be treated in the section to follow.


who YÉ not will blame you
‘No-ONE will blame you.’

‘It is not the case that an entity which is a person will blame you. All alternatives to entities that could blame you would still be persons, so no-one will blame you.’

35 Depending on one’s analysis, *yǒngyuán* 'ever' as a negative polarity item in (i) (i.e. with scope below negation) may either be analyzed as ‘at any point in time,’ or it may be considered an existential binder of the time parameter of an eventuality (the latter option amounts to Krifka’s 1995: 235ff choice for English *ever*).

(i) *Jiù* shìhùi-de kā,  
old society-ATTR hardship  
*wǒ yǐngxiàng* bù huí wàngjì.  
I ever DOU not will forget
‘NEVER EVER will I forget the sufferings in the old society.’

At this point, I lack sufficient data to make a decision how *yǒngyuán* should be analyzed.

b. Tā *shénme* yē/dōu bù shuō.  
(s)he what YÉ/DOU not say
‘(S)he doesn’t say ANYTHING AT ALL.’

‘It is not the case that (s)he said something which is a thing. All alternatives to entities (s)he could say would still be (more specific) things, so (s)he does not say anything.

c. Lǎo Zhāng *shénme* shíhòu yē/dōu měi yǒu gōngfù.  
Old Zhang what time YÉ/DOU not have time
‘Old Zhang NEVER EVER has time.’

‘It is not the case that Old Zhang has time at a point in time which has the property point in time. All alternatives at which Old Zhang might have time would still be (more specific) points in time, so Old Zhang does not have any time at all.’

d. Tá *jí-diàn* yē/dōu měi yǒu gōngfù.  
(s)he how-many CL: o’clock YÉ/DOU not have time
‘(S)he NEVER EVER has time.’

‘(S)he does not have time at ANY POINT IN TIME.’

It is not the case that (s)he has time at a point in time which has the property point in time on the conventional time scale. All alternative times at which (s)he might have time would still be (more specific) points in time on the conventional time scale, so (s)he does not have any time at all.

e. [Tá] zhèng-diān zài jiā-lǐ, NÁR yē/dōu bù qū.  
(s)he whole-day at home-in where YÉ/DOU not go
‘(S)he stays at home all day, (s)he doesn’t go ANYWHERE AT ALL.’ (hx: 620)

It is not the case that (s)he goes to a place that is a place. All alternative places (s)he might go to would still be places, so (s)he does not go anywhere at all.

f. Néi-xiē pixiē, NÉI-SHUÀNG yē bù hēshí.  
that-CL:some shoe which-CL:pair YÉ not fit
‘Among these shoes, there’s NO PAIR AT ALL that fits.’

It is not the case that, among these shoes, there is a pair which has the property of being identifiable and which fits. All alternatives which might fit would still be identifiable, so there is no pair at all that fits.

g. Xiǎo sōngshǔ pà-de hén kuài,  
little squirrel climb-CSC very fast  
yǐshí ZÉNME yě dǎihuízhù.  
momentarily how YÉ not be able to catch
‘The little squirrel was climbing very fast, and for the time be-
It is not the case that the squirrel can be caught with an action that has the property of being a manner of catching. All alternatives to ways of catching the squirrel would still be manners, so the squirrel cannot be caught at all.  

This statement, however, is not stronger than any alternative.  

The resulting sentence

\[
\text{Take, for instance, the alternative subject nominal } \text{jiějiě} \text{ 'elder sister'.} 
\]

The resulting sentence

\[
\text{My elder sister knows about this matter is more specific than } \text{Someone knows about this matter, with the latter being the} 
\]

Before concluding this section, it is time to remember the following: I am not claiming that all sentences with wh-words/indefinite pronominals receiving some kind of universal interpretation are open to an analysis in this vein. Just consider sentence (129).

\[
\text{(129) Shiět } \text{dōu/yē zhídào zhè-jìàn shì.} 
\]

who DŌU/YE know this-CL matter

\text{Everyone knows about this matter.}

There are at least two factors obviating the integration of this sentence into the present context: (i) the ungrammaticality of yē, and (ii) the lack of a context which is downward-entailing in the sense made use of by Krifka’s (1995) account of negative polarity.

The first point is not in need of a long comment: According to what we have seen so far, it should be possible to use yē whenever dōu may be used because the quantificational type relating to dōu entails the quantificational type relating to yē; therefore, it is not clear why yē cannot be used in (129) if we suggest the same kind of analysis as proposed for the immediately preceding cases.

The second point is not very difficult to see, either. If, for instance, we wanted to stick to the polarity-item solution in (129), we would have to say that there is an entity with the property person that knows the matter at hand. This statement, however, is not stronger than any alternative statement differing with regard to the subject. The opposite is true: Any alternative subject that might be used would yield a stronger assertion. Take, for instance, the alternative subject nominal jiějiě ‘elder sister’. The resulting sentence

\[
\text{My elder sister knows about this matter is more specific than } \text{Someone knows about this matter, with the latter being the} 
\]

plain sentence meaning of (129) if we adopted the polarity-item analysis. The same is true of any other alternative object nominal. For this analysis to work, all alternative sentences would, however, have to be less specific than the plain assertion, i.e. they would have to be (contextually) entailed.

With this argument in mind, the obligatory use of dōu in (129) becomes outright mysterious. This mystery will be the present section’s cliff-hanger.

In this section arguments have been developed to understand the obligatory use of dōu or yē in sentences with focalized polarity items. Starting from Krifka’s recent theory of polarity licensing, we have discussed two major types of polarity items: Negative polarity items of quantity, and negative polarity items of quality. Mandarin negative polarity items of quantity are easily handled (sub-section D): Given the right embeddings within the quantificational structures of assertions, maximum or minimum values on scales entail all of the alternative values. Dōu reflects this fact within the verbal complex because of its universal quantificational type. Yē’s quantificational type (existential quantification) is entailed by that of dōu, so yē’s use does not constitute a problem either. An important sub-class of negative polarity items of quality (sub-section F) has been shown to require more of a theoretical apparatus: Some, but not all, uses of wh-words/indefinite pronominals can be analyzed as denoting highly non-specific properties of referents, and Krifka’s account for strong polarity items such as ANYTHING (AT ALL) has proved to fit precisely these cases.

4.3.4 Parametric dōu/yē and free-choice interpretations of wh-words/indefinite pronominals and disjunctions

This section will aim at shedding some light on uses of parametric dōu and yē as in (130).

\[
\text{(130) a. (Buì̀ tún) chū shěnme nǎnì,} 
\]

no matter ask what problem

\text{tā *(dōu/yē) nēng zài jīsūnǐ zhīqián xīnshuānchūlái.} 
\text{(s)he DŌU/YE can at computer before calculate}

\text{‘No matter how difficult a problem is that you ask him/her [lit.:}
\text{‘No matter what difficult question you ask him/her… ’], (s)he}
\text{can calculate it faster than the computer.’ (hx: 618)}

\[
\text{b. (Bǐguàń) chéng yǔ bù chéng,} 
\]

no matter succeed and not succeed

\text{nǐ *(dōu/yē) yào gěi wǒ-ge huìhùa.} 
\text{you DŌU/YE must give I-CL reply}
Mary saw anything, starts out from the intuition that sentence (13 la) expresses something like (131) a point of view of semantics, the most explicit one developed so far. He the argument developed above? The answer is obvious: used in a context which licenses negative polarity items. polarity item here, the whole sentence should be just as bad as English as a negative polarity item. (130a) is different. A. Accounting for the use of dòu and yè in wúlùn-clauses with wh-words/indefinite pronominals For (130b) it is easy to show that this sentence does not have anything to do with polarity items. Not a single word in that sentence could be suspected to be a (negative) polarity item. (130a) is different. Shènme 'what/some' has in the preceding section been demonstrated to have uses as a negative polarity item. So why not analyze (130a) along the lines of the argument developed above? The answer is obvious: Shènme is not used in a context which licenses negative polarity items. If shènme were a polarity item here, the whole sentence should be just as bad as English Mary saw anything, or the Mandarin example (127c) in its (unavailable) non-question reading.

Lin's (1996) account of Mandarin no-matter-sentences is, from the point of view of semantics, the most explicit one developed so far. He starts out from the intuition that sentence (131a) expresses something like the set of sentences in (131b) (p. 72).

(131) a. Wúlùn nt yàoaqing shèi, wò dòu huánying tā. no matter you invite who I DOU welcome (s)he 'No matter who you invite, I will welcome him.'
b. If you invite John, I will welcome him.
If you invite Jack, I will welcome him.
If you invite Mary, I will welcome her.

The speaker will welcome whoever is invited by the addressee, and the list in (131b) results from the different possibilities of assigning a referent to the person variable encoded by shèi 'who', depending on the universe of discourse. In Lin's theory the wúlùn-clause is analyzed as the generalized union over a question denotation, and the interplay of the wúlùn-clause and the main clause is seen as a conditional relationship: If there is someone who is such that you invite him, I will welcome him, no matter who he is.

The simplified details are as follows: Questions are, according to Hamblin's (1973) theory, analyzed as denoting the set of possible answer propositions to the question. In the situation-semantics framework à la Kratzer (1989) adopted by Lin, a proposition is identified with the set of situations in which the proposition is true. Therefore, the denotation of nt yàoaqing shèi 'you invite who' in (131a) would be the set of sets of situations which are such that the addressee invites someone in these situations, i.e., {the set of situations in which the addressee invites John, the set of situations in which the addressee invites Jack, ..., the set of situations in which the addressee invites Mary}, depending, of course, on who is inside the universe of discourse. Wúlùn (and likewise wúlùn, wùguān or bīguān) is said by Lin to form the generalized union over this set of sets of situations, and the resulting set is the set of situations in which the addressee invites someone. This, combined with the main clause, gives us I will welcome whoever you invite.

According to Lin, dòu's function in the main clause is the same as in its distributive use. Consider the old example of this use from section 2.3.2 again:

(132) Támen dòu mǎi-le yì-bù chēzì. they all buy-ASP 1-CL car 'They all bought a car.'

Dòu as in (132) distributes over a(n inherently) plural entity in such a way that the predication is true of each atomic sub-part of the plural entity. Therefore, (132) does not have a reading in which a single car was bought collectively. The number of individuals included in the denotation of tāmen 'they' in a given context must equal the number of cars purchased. Just as dòu in this example distributes over individuals, Lin (p. 771) claims that dòu in (131a) distributes over the set of situations in the generalized union corresponding to the denotation of the wúlùn-clause. Dòu's contribution would thus be to signal that every single situation in which the addressee invites someone is such that the speaker will welcome this person.
This summary of Lin’s proposal is certainly very short and also very crude, but I hope it gives readers of the present study an idea of what Lin is aiming at. I also hope that it is sufficiently detailed to understand the difficulties that it faces if confronted with certain facts. I have found one class of facts which obstruct Lin’s way of accounting for the use of no-matter-expressions, and their interchange with dōu. The argument takes as a starting point the interchangeability of yē and dōu, and the nature of the expressions these words relate to; it then moves on to show that its empirical consequences do not allow us to treat dōu in no-matter-sentences as distributive dōu.

The first difficulty arises if we recall that, as witnessed by (130), dōu and yē may freely interchange in many sentences with no-matter-expressions. I take it for granted that yē, in all of its focus-sensitive functions, has something to do with quantification over domains of contextually given alternatives. If this is so, its (partial) variant dōu should do the same thing. Lin’s analysis, however, takes the set of possible answers to the question-complement of wulun as part of the denotation of a wulun-sentence. Denotations are something like the semantic content of linguistic expressions irrespective of context, whereas alternatives as related to by focus semantics always make reference to contextually delimited sets of propositions which are not part of the denotation (cf. also the discussion on ‘ordinary meanings’ as opposed to ‘focus meanings’ in section 4.2.4). Lin needs a plural denotation of wulun-clauses in order for his dōu-explanation to work, because distributive dōu relates to plural entities within the denotation. Parametric dōu as treated in this study relates to a set of contextually given alternatives. If it can be shown that the complements of wulun ‘no matter’ do not denote plural entities, but only contextually relate to sets of alternatives, we have shown that dōu in wulun-sentences is of the parametric type, and not of the distributive type.

Crucial evidence is delivered by the sentence in (133).36

(133) Wulun shēi dōu xǐhuān tā-zijī/tāmen-zijī
nomatter who DOU like (s)he-self/they-self

‘No matter who, everybody likes himself.’

This sentence combines a wulun-expression with reflexivity. Reflexive pronouns in Mandarin are good diagnostics for testing whether the antecedent of the reflexive is a plural entity or not, because distinct expres-

sions for plural or singular (human) antecedents are used. In (123) only the singular reflexive expression may be used, and this is strong evidence against Lin’s analysis of denotationally plural wulun-complements.

What may be a bit irritating in our context is the fact that wulun ‘no matter’ in (133) does not take a clausal complement, but a nominal one. So far, we have only dealt with complex wulun-sentences. Sentences with non-clausal wulun-complements are nothing peculiar though, and I would opt, together with Lin, for an overarching analysis.37 The reason why I have not made use of any sentences with nominal wulun-complements so far is simple: Wulun may generally be dropped, but the sentence meaning may remain the same, i.e. the sentence in (133) would still mean the same even if wulun were not used. But then the sentence looks a lot like the type of sentence discussed in the preceding section, i.e. as a sentence with negative-polarity shēi. Negative-polarity shēi would, however, not be licensed in (133) because the sentential context is not of the required kind. In order to avoid this confusion, I have taken complex wulun-sentences as the starting point for the discussion of wulun-sentences.

Now it is about time to deal with the relationship among simplex wulun-sentences, and sentences involving wh-words/indefinite pronouns used as negative polarity items. In the course of this discussion we will arrive at a statement of the meaning that I would like to assign to wh-words/indefinite pronouns in wulun-sentences. To get a handle on the problem, consider (134) first.

(134) a. Xiǎo Wáng wulun shénme dōu/yē bù cuí
Little Wang no matter what DOU/YE not eat

‘No matter what, Little Wang doesn’t eat it.’

b. Xiǎo Wáng shénme dōu/yē bù cuí
Little Wang what DOU/YE not eat

‘Little Wang doesn’t eat anything at all.’

(‘No matter what, Little Wang doesn’t eat it.’)

(134a) is a wulun-sentence in which wulun takes only a nominal as its complement. (134b) is identical to (134a), except for the fact that wulun is not used. The first translation of (134b) is in line with what we know from the preceding section: Shénme is interpreted as a strong negative polarity item, and the whole sentence says that if Little Wang has eaten

36 This argument has, with a different kind of example, been used before (section 4.3.1, ex. (102)) in connection with the argument against treating parametric dōu in general as a variant of distributive dōu.

37 Lin proposes to take a set of sets of humans as the denotation of shēi ‘who/someone’ in simple wulun-sentences. Individuals are treated as singleton sets, so the set of sets of humans is the set of sets of individuals. The generalized union over the denotation of shēi then amounts to the set containing all humans within a given universe of discourse.
anything, at least it was not anything with the property thing, and therefore, Little Wang has not eaten anything at all, because all edible items are things. But (134b) has a second translation, and this translation equals that of (134a) – it has already been mentioned above that *wu/un*-words may be dropped. Even though it would be difficult to find a situation in which the first reading of (134b) is true and the second one false, or vice versa, I claim that the two readings differ, and the interpretation of *shénme* is where they differ crucially: *Wh*-words in sentences such as (134b) may be interpreted as strong polarity items or as free-choice items.

As a polarity item, *shénme* denotes the property thing which is attributed to some referent and which is true of all things. I claim that as a free-choice item, *shénme* is an expression which is open to denote any freely chosen single nominal value of the appropriate kind, and for the truth-value of the whole assertion it does not make a difference which value from the universe of discourse or the common ground is chosen. In (134a) and in the second reading of (134b) *shénme* is free to be interpreted as *fàn* ‘rice’, or *miàn bāo* ‘bread’, or *miàn tiáo* ‘noodles’, or whatever may be salient in the relevant discourse. The important thing is that any value can be chosen, but only a single one. Therefore, the denotation of the *wh*-word/indefinite pronominal in *wu/un*-sentences is singular, and the facts of pronominalization in reflexive sentences such as (133) (or (102) above) can be derived. On the other hand, the fact that speakers and hearers are free to assign whichever specific single value or specification to the variable with no change in the truth-value amounts to a kind of indirect universal quantification: If I am free to think of a kind of edible item, and I can, no matter which one I choose, be sure that this kind is one which Little Wang does not eat, then I know that Little Wang does not eat anything.

The important fact about this proposal is the nature of the domain of quantification. It is not given by way of the denotation of the question word *shénme* ‘what’ as in Lin’s proposal, but rather by way of the contextual alternatives relating to the one kind of edible item present in the interpretation of free-choice *shénme* ‘something’. Stated in terms of the illustration in (131b), we would say that only one of the sentences, say the first one, is asserted, whereas the others are entailed to be true, because the *wu/un*-interpretation makes it clear that the second or any other sentence might just as well have been chosen for the assertion.\(^{38}\)

\(^{38}\) Note that entailment, as opposed to presupposition, is probably the correct notion here (cf. footnote 30).
(136) a. Wúlín nǐ yào shénme, wǒ dōu kěyǐ gěi nǐ mài. 

no.matter what you want, I DŌU can for you buy.

'No matter what you want, I can buy it for you.'

b. [A: Qǐng nǐ gěi wǒ yí-tiáo yú, hǎo ma?] 

ask you give I 1-CL fish good PRT

'Would you please give me a fish?'

B: Nǐ yào nǐ-yí-tiáo? 

you want which-1CL

'Which one do you want?'

A: Wúlín nǐ-yí-tiáo dōu xíng. 

no.matter which-1CL DŌU fine

'Any fish will do.'

Lin claims that (136a) is ambiguous, with one reading having it that it is required that ten out of ten things that the addressee likes are bought, and with the other reading allowing for the purchase of only one item out of the ten things the addressee likes. This ambiguity is like the one in Any guest can come in, Lin states, because this sentence may likewise either mean that all persons or, in a sufficiently rich context, just one person can come in. Lin welcomes the felicity of the question-answer sequence in (136b) as additional evidence for the same claim: A’s last statement does not say that he wants to buy all the fish present in the situation, but just a single one, and this holds true despite the presence of wúlín.

I am convinced that the assumption of such an ambiguity for the Mandarin sentences is misguided. In a footnote Lin himself (p. 83) notes down the intuition that the modal kěyǐ ‘can’ as in (136a) seems to play a role in the emergence of the alleged ambiguity, but he does not pay any closer attention to this impression. I believe that the use of kěyǐ ‘can’ and xíng ‘okay, be possible’ is the key to an understanding of why both examples are good in situations in which only single items are bought. The crucial role played by kěyǐ ‘can’ and xíng ‘okay, be possible’ is their modalizing force: If somebody can buy something for me, no matter what it is, she need not buy anything for me, but she might also buy something or everything. That means that the number of items actually purchased in the situation(s) denoted by (136a) does not matter at all. What does matter is the fact that all the things the addressee could possibly want are among the things that the speaker can buy for the addressee. Similarly, in (136b). If we paraphrase the sentence as No matter which fish, it is a possible fish for me to buy, no need exists to buy a single fish, but the purchase of one fish, or even all fish, is possible. Every single one of the things that the addressee wants is also a thing that the speaker can buy for him, and dōu reflects the fact that all alternative assertions with an-

other item to be bought are also true. All of this is in the realm of the virtual, and this is how Lin’s alleged ambiguity comes about. The purported ambiguity clearly depends on the use of a modal expression. Consider (136’).

(136’) Wúlín nǐ yào shénme, wǒ dōu gěi nǐ mài. 

no.matter you want what I DŌU for you buy

'No matter what you want, I'll buy it for you.'

Apart from the missing modal, this sentence equals (136a). It is true in different kinds of situations, depending on how many things the addressee wants. But one of its truth-conditions is that the speaker must buy at least as many things as the addressee wants. Since in this sentence items wanted, and items that are actually bought must coincide due to the lack of the modal, the truth-conditions of this sentence are more obvious than the ones of (136a) in which the domain of the possible opposes the domain of the actual. I think it is clear by now that none of the sentences in (136) and (136’) is ambiguous, and that the feeling of ambiguity one may have if meditating on the meaning of (136) is a one-hundred percent consequence of the reference to (possibly many different) possible worlds quantified over by the modal.

B. Accounting for the use of dōu and yě in wúlín-sentences with disjunctive embeddings

Apart from wh-words/indefinite pronouns, there is one more class of expressions typically used in Mandarin questions that have uses in wúlín-sentences, and do not result in utterances with interrogative force. One of the Mandarin constructions for expressing yes/no-questions may just as well serve as the complement of wúlín (búlún, wígūan, bi̇gūan etc.). Unless the sentence final particle ma is used, Mandarin yes/no-questions are formed by using the A-not-A-question construction. Examples of a particle question, and of a disjunctive A-not-A-question are given in (137).

(137) a. Nǐ qu mǎ?

you go PRT

'Are you going?'/ 'You are going?'

b. Nǐ qu bu qu?

you go not go

'Are you going?'

Particle questions as in (137a) are often biased towards a positive answer, whereas A-not-A-questions as in (137b) are neutral in this respect. A-not-A-questions are also called ‘disjunctive’ because they have the
make-up of (juxtaposed) disjunctions: The act of answering a disjunctive question amounts to a choice among the positive and the negative predicate in the question.

Now consider a pertinent wūlùn-example (the bracketing in (138) just serves to separate the matrix subject from the embedded clause).

(138) Tā [bú wūlùn xià bu xià yǔ] dōù yē hūi lài. (s)he no.matter fall not fall rain DOU/YE will come 
('S)he will come, no matter whether it’s raining (or not).'
(ad. Eifring 1995: 32)

Since the Mandarin structure resembles those in other languages to such a great extent, the intuitive understanding of this construction does not constitute much of a problem. In our context we are, however, obliged to say something about the use of dōu and yē. Specifically, does (138), in the end, not look like a case in which dōùyē reflects facts of quantification over a plural entity within the denotation of the sentence? Both alternatives are encoded in (138), and dōu might simply be seen as distributing over both cases of the inherently plural disjunctive entity, thereby forcing us to assume that dōu is of the distributive, and not of the parametric kind in this sentence. Recall that all other occurrences of parametric dōu and yē have so far been analyzed as relating to contextually given alternatives, but here the alternatives are spelled out overtly.

This argument can easily be discarded. In (138) the disjunctive embedding does not mean that both disjunctions are interpreted alike. It is the very nature of disjunctions, or of complex propositions in which the propositions are related by an exclusive OR-operator to be true if one of the disjuncts is true, but never if both disjuncts are true or both are false. As with the examples in the preceding sub-section, hearers of sentence (138) are free to choose either possibility (either a situation in which it is raining, or a situation in which it is not raining, i.e. only one at a time), and the truth value of the whole sentence will not depend on this. Therefore, the alternative related to by dōu is only given contextually. The way the būguān-clause in (138) interacts with the rest of the sentence is as follows: If the speaker assigns a truth value α to the proposition It is raining with α ranging over the values true and false, then the whole sentence gets true, but if the alternative were/had been chosen, i.e. if the truth value were/had been —α, the sentence would likewise be/have been true. Again, a free-choice interpretation is involved, but this time the choice is not from among a set of nominal values as, for instance, with shéi ‘who’ in (131); the free choice here is among truth values.

Since the total number of alternatives is only 1 (unless we count the chosen value as being also a member of the set of alternatives), the possible use of yē instead of dōu in (138) is accounted for most easily. In this extreme case the results of universal and of existential quantification over the domain of alternatives coincide: It is both true that some alternative is true, and that all alternatives are true.

More examples of the same kind have been assembled in (139) ((139a) = (130b)).

(139) a. Būguān chéng yǔ bù chéng, no.matter succeed and not succeed 
   ni dōù/yē yào gēi wǒ/ge hún/huā, you DOU/YE must give I-CL reply 
   ‘No matter whether you’re successful or not, you must give me a reply.’ (ad. hx: 618)
   b. Būlùn bāi bāi wǎngshǎng, no.matter day-time evening 
   tā dōù/yē yào diǎn-zhe yòu-děng, (s)he DOU/YE want ignite-ASP oil-lamp 
   ‘No matter whether it is during the day or in the evening, he always wants to keep the oil lamp burning.’ (cf. Alectron 1972: 65)
   c. Būguān tā qù bu qù, nǐ dōù/yē hūi qu ma? no.matter (s)he go not go you DOU/YE will go PRT 
   ‘Will you go, no matter whether (s)he’s going or not?’
   (adapted from Eifring 1995: 44)
   d. Rènpíng tā guǎ fēng xià yǔ, no.matter it blow wind fall rain 
   dōù/yē zài dāng bù wǒ men qián jīn de bī fā. DOU/YE unable.to.stop we advance-ATTR pace 
   ‘No matter whether the wind blows or the rain falls, it won’t stop us from forging ahead.’ (cf. Eifring 1995: 176)

I see no obstacles to an application of the above analysis to these sentences.

C. Remaining issues

Let us now turn briefly to some problems which I have not been able to solve or which require a more explicit future treatment.

Readers may have noticed that I have remained silent about the information-structural status of (the components of) wūlùn-complements. There is a reason for this. So far, all categories interacting with paramet-

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39 The fact that būguān instead of wūlùn is used in this example is insignificant. For a survey of wūlùn-words in Mandarin cf. Eifring (1995: part one, V).
ric cái, jiù, dōu or yě could plausibly be shown to be foci, or at least C(ontрастive)-topics. These notions are not easily integrated into the present argument, because the wh-word/indefinite pronominals, and the disjunctions in wūlùn-complements do not straightforwardly denote values with regard to which alternative values could be considered. The way I have analyzed them here, these expressions encode a free-choice option, and only the result of this option may be considered something that relates to alternative values. Consider (140) again (= (131)).

(140) Wūlùn nǐ yéqǐng shéi, wǒ dōu huānyìng tā.

‘No matter who you invite, I will welcome him.’

Even though shéi ‘who’ will bear focal stress in most realizations of (140), we cannot say that alternatives to shéi, or alternatives to the sentence with shéi, are considered. Instead, we want to say that alternatives to (the sentence with) a freely chosen value assigned to the shéi-variable are considered, and this value is not encoded in (140). Therefore, (140) does not have a focus (or C-topic) the way other sentences with parametric dōu do. Nonetheless, we clearly understand the relationship among (140), and a specific value assignment that may be contrasted with alternative value assignments. Therefore, I see no principled reason not to say that, in this case as well, parametric dōu interacts with a distinguished information-structural category. A similar argument can be developed for disjunctive wūlùn-complements. Take another look at (141) (= (139c)) to see this.

(141) Búguān tā qù bu qù, nǐ dōuyě hui qù ma?

‘Will you go, no matter whether (s)he’s going or not?’

Again, the complement of búguān ‘no matter’ will contain an element with a focal accent, but it need not be within the disjunctive structure. In (141) focal stress on tā ‘(s)he’ would yield a good utterance, and the string qù bu qù ‘go not go’ might be entirely deaccented. Still, we want to say that dōu or yě interacts with the freely chosen truth value of tā ‘(s)he is going’, and this truth value cannot be identified univocally by examining the prosody of (141).

The second problem concerns the (non-)interchangeability of dōu and yě. The mere fact that yě may be used instead of dōu is not a problem: dōu reflects the fact that, if any of the competing values from the domain had been chosen, the sentence would likewise have been true; yě reflects the fact that there is at least one alternative value which would have yielded another true sentence, and this is true no matter which value is actually chosen. Therefore, both sentences do not differ in their readings. (Note once more that the component of universality necessarily present in the interpretation of wūlùn-sentences does not come in by way of using dōu or yě, but rather by way of using wūlùn ‘no matter’, and by way of relating to focus alternatives.)

The problem is that dōu and yě may only interchange in wūlùn-sentences if there is a nonveridical operator present which has matrix scope (cf. the minimal pairs in (142), our old descriptive generalization from ch. 3 in (143), and the whole discussion in section 3.3.3.A).

(142) a. Wǒ wūlùn shènme-yǐng-de shū yě *(ménggǒu) zhǎodào.

‘I don’t matter what kind of book I can find.

‘I can find any kind of book.’

b. Wǒmen wūlùn shènme dīxi yě *(bǐ) zhǐdào!

‘We don’t matter what details YÉ not know.

‘We don’t know any exact details!’

(143) Nonveridicality and the grammaticality of sentences with wh-... yě-strings:

In assertions involving wh-words/indefinite pronominals conveying the meaning of (some kind of) universal quantification over the domain of the wh-word/indefinite pronoun, yě may only be used in nonveridical contexts.

Nonveridical operators are those operators that do not entail the truth of their embedded propositions. (142a) is fine with the modal verb, because it is nonveridical: The fact that the subject referent in (142a) can find any book does not entail that (s)he really finds a book. Negation as in (142b) is an extreme case of nonveridicality because it does not just fail to entail the truth of its embedded proposition, it entails its falsity. The sentences without the operators are bad, and that is the situation covered by the old generalization in (143). The reason why these semantic facts have already been discussed in ch. 3, and why they constitute a problem, is as follows: Although I have been able to identify nonveridicality as a necessary condition of the grammaticality of wūlùn-sentences with yě, I have no idea why this is so. Non-veridicality does not tie in neatly with anything else that I know about wūlùn-sentences. Therefore, nonveridicality figures as a constraining factor which does not appear to have anything to do with the focus semantic facts discussed in this chapter. For this reason, I have introduced nonveridicality as a constraining factor on dōuyě-uses in ch. 3. I leave the exploration of a possible closer link as a challenge for future research.
The third problem is that some wǔlín-sentences are bad even though they have nonveridical operators taking sentential scope as in (144a) and (145a), but they improve considerably if small changes as in (146b) are made. (146a) is bad, as predicted by (143), but it is fine if -le is used as in (146b). Moreover the good, albeit marked, sentence with yě in (146b) is a counterexample to the generalization in (143).

(144) a. Wǔlín tā shuō shénme, wǒ dōu/*yě hūi dàyìng de. no.matter (s)he say what I DOU/YE will agree PRT 'WHATEVER he says, I'll agree to it.'

b. Wǔlín tā shuō shénme, wǒ dōu/*yě dàyìng. no.matter (s)he say what I DOU/YE agree 'WHATEVER he says, I agree to it.'

(145) a. Búguān cōng shénme huí jǐng dōu/*yě kěyì shàng-qu. no.matter from what place DOU/YE can ascend-go 'One can ascend from ANY direction, no matter WHICH.'

b. Búguān cōng shénme huí jǐng wùmén dōu/*yě kěyì shàng-qu. no.matter from what place we DOU/YE can ascend-go 'We can ascend from ANY direction, no matter WHICH.'

(146) a. Tāmén shénme dōu/*yě gāilìăng. they what DOU/YE change for the.better 'No matter WHAT, they change EVERYTHING for the better.'

b. Tāmén shénme dōu/*yě gāilìăng-le. they what DOU/YE change for the.better-ASP 'They have changed EVERYTHING for the better, no matter WHAT it is.'

I do not know of a solution to any of these puzzles. Specifically, I do not know why (144a) improves if hūi and -de are dropped as in (144b); it is unclear to me why (145a) is better with an overt subject as in (145b), and why, as in (146b), (146a) improves if -le, the perfective aspect marker, is used. The last sentence is also a counter-example to Lin's generalization that wǔlín-sentences are bad in extensional contexts.

This section has delivered the following insights: Apart from the dōu/*yě-triggering use of wh-words/indefinite prononomals as negative polarity items, there is another use of wh-words/indefinite pronominals as free choice items which goes along with the obligatory occurrence of dōu or yě. This is dōu/*yě's use in no-matter-clauses. I have demonstrated that the use of dōu in no-matter-clauses cannot be classified as distributive. Instead, an analysis in terms of parametric dōu/*yě should be favoured. The same applies to no-matter-clauses with a disjunctive make-up. Quite a few sentences in this domain are grammatical, or ungrammatical for reasons that I do not fully understand.

Table 4.1 summarizes the characteristic properties of sentences with dōu/*yě and wh-words/indefinite pronominals used as strong negative polarity items on the one hand (cf. section 4.3.3), and of sentences with dōu/*yě and wh-words/indefinite pronominals used as free-choice items, on the other (cf. section 4.3.4). Opposing the two kinds of phenomena as in Table 4.1 makes it clear that there is a large class of sentences that are ambiguous between the two possibilities (cf., for instance, (134b)).

Table 4.1 Wh-words/indefinite pronominals as strong negative polarity items, or as free-choice items

<table>
<thead>
<tr>
<th>Wh-words/indefinite pronominal interpreted as a...</th>
<th>strong negative polarity constructions</th>
<th>Wǔlín-(no-matter)- constructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>(strong) negative polarity item</td>
<td>free-choice item</td>
<td></td>
</tr>
<tr>
<td>(predicate denoting the most general property that may be attributed to a referent of the relevant sort, e.g. thing for shénme, person for shéi, etc.) bound by a free-choice operator</td>
<td>(disjunction of predicates as an alternative kind of free-choice item)</td>
<td></td>
</tr>
<tr>
<td>predicates that are semantically stronger than the predicate in the assertion</td>
<td>different values of the variable</td>
<td></td>
</tr>
<tr>
<td>result in downward-entailment of the denotation of the wh-word/indefinite pronominal</td>
<td>be non-veridical if yě is to be used</td>
<td></td>
</tr>
</tbody>
</table>

4.3.5 Parametric dōu/*yě and concessivity

For a first impression of the domain to be covered in this section have a look at (147) and (148).

(147) (Suīrán) MÉI xià YÚ, tā ???dōu/*yě dàizhe sān. although not.have fall rain (s)he DOU/YE take-ASP umbrella 'She took along an umbrella although IT WASN'T RAINING.'

(ad. hx: 619)

(148) a. (Jīshí) GUÓWÁNG lài, wǒ dōu/*yě bù qù. even.if king come I DOU/YE not go 'Even if THE KING comes I won't go.'
The sentences in (148) are examples of concessive conditionals: A conditional is enriched in such a way that, apart from encoding the mere conditional semantics, an even-interpretation relating to (part of) the protasis is added. In (147) no conditional semantics is expressed, and subordinate clauses as in this sentence are traditionally called concessive clauses. The tasks for this section can be derived from these three sentences and their interplay.

First, with a rough idea of the semantics of concessive constructions in mind, we should be able to say what triggers the use of parametric ye. The statement of this triggering relationship will necessitate a restatement of the function of parametric ye. Second, the ungrammaticality of using dou in (147) should be made to follow from what we know about dou and concessives. Note in passing that dou is bad in (147) irrespective of the use of suiran 'although'. Both points will be dealt with in sub-section A. Third, we should explain how dou and ye come to be used in concessive conditionals. Fourth, an explanation must be sought for the fact that concessive conditional clauses introduced by jishí 'even if' as in (148a) behave in a special way if compared with concessive conditional clauses introduced by the functionally and phonetically similar element jishí 'even if' as in (148b). Jishí seems to block the use of dou, while jishí, or the non-use of any functional element introducing the concessive conditional clause, does not have any such effect. Sub-section B takes care of these two issues.

There is also a fifth point, but I will not pay any closer attention to it. Example (148a), for instance, has more readings than the one given in the English translation. Specifically, it is not restricted to a potential or hypothetical reading. It might just as well be interpreted as denoting an irregular, or a counterfactual semantics: 'Even if the king came I wouldn't go' and 'Even if the king had come I wouldn't have gone' are also good translations of (148a) depending on the context. Provided the subordinating connectives such as jishí in (148a) do not restrict the interpretation in a conventionalized way, this is a general phenomenon in Mandarin complex sentences, and I will ignore the details of this fact in the following.40 Still, we should avoid stating any of our generalizations in a way which would collide with this fact.

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40 Sentences with the same kind of indeterminacy for cài and jiù are (23) and (67). For an overview of such restrictions or preferences cf. e.g. Bisang (1992: sections 5.5/5.6).
The presupposition in (149b) states that the more common behaviour is not to take an umbrella along if it does not rain.\(^{41}\) Note that the quantification by way of *usually* prevents the combination of (149a) and (149c) from leading to a contradiction: If it is only true of most, but not of all, situations with dry weather that Old Li does not take an umbrella along, then the fact that in the asserted predication he did take along an umbrella is not a problem. The presupposition does not allow us to conclude anything about alternatives to \(p\), but only about alternatives to \(q\). But for parametric \(\nu\) to be used felicately, we also need to make reference to an alternative to \(p\) or to part of \(p\). This is where the C-topic in (149a) comes into play. With an information-structural make-up as in (149a), I claim that the sentence relates to an alternative sentence as presented in (149c) in an English translation.

(149) c. *If it had rained, Old Li would have taken along an umbrella.*

The first proposition has changed its polarity, while the second one has remained unchanged in this respect. Disregarding the factuality changes made in (149c), and the change from the concessive marker to the conditional marker, this sentence constitutes a proper alternative in the spirit of the account of sentences with C-topics as presented in section 4.2.4. Now, why is \(\nu\) used in (149a)? The case is intuitively clear: \(\nu\) with its semantics reflecting existential quantification over the domain of alternatives is used because, apart from the asserted circumstance in focus (dry weather), there is at least one other type of circumstance, viz. rainy weather, under which Old Li would also take along an umbrella. This sounds straightforward, but if we look at it more closely in the light of our preliminary generalization covering the function of parametric \(\nu\) in (150) (= (110)), we run into trouble.

(150) a. \(\nu\) is an agreement marker; the verbal background agrees with a semantically specific focus.

b. Among all the possible alternatives to \(\nu\)-sentences that only differ with regard to the focus value, the pragmatically relevant set of alternatives is considered, and it is presupposed that at least one of these alternatives is true. (to be revised)

The problem is that existential quantification in (150b) ranges over actual cases, but in our example we need quantification over non-actual cases: (149a) is not a generic or habitual sentence, it is about a single occasion on which Old Li took along an umbrella although it was not raining (the use of \(\nu\), i.e. the negation marker of propositions that would be marked by the perfective aspect marker `-le` if they were not negated, is a formal indicator of this). Therefore spelling out the assertion and the presupposition should not yield ‘Old Li has taken along an umbrella in spite of the dry weather, and Old Li has, at the same time, taken along an umbrella because of the rainy weather’. What we need is ‘Old Li has taken along an umbrella in spite of the dry weather, and Old Li would likewise have taken along an umbrella if it had been raining’. Quantification is thus not over actual worlds, but over possible worlds. This is reminiscent of \(\nu\): Recall the discussion in section 4.2.4 which took (151) (= (61)) as a starting point.

(151) *Yinwei [CHUANGHU WAIMIAN YOUGE CHUFANG] C-topics because window outside exist-CL kitchen fangjian jiu AN le.
room JIU dark FRT
‘Since [THERE IS A FOOD STALL OUTSIDE THE WINDOW] C-topics, the room is DARK.’ (hx: 346)

I have argued in that section that relevant alternatives to (151) are about situations in which the room would not be dark because no food stall is placed in front of the window. I have tried to cover such cases by including a modal disjunction into the relevant generalization in (152) (= (69); I repeat the final version of the generalization here).

(152) a. \(\nu\) is an agreement marker; the verbal background agrees with a semantically specific focus or an (implicit) C-topic.

b. Among all the possible alternatives to \(\nu\)-sentences whose propositions only differ with regard to the focus or the (implicit) C-topic value, the pragmatically relevant set of alternatives is considered, and it is entailed that at least one of these alternatives is wrong, or would be wrong. One of these alternatives is wrong in those cases in which the alternatives are not counterfactual; it would be wrong in those cases in which counterfactual alternatives are considered.

Leaving aside the complications of C-topics and implicitness that I will not go into in the discussion of parametric \(\nu\) and \(\nu\), we get a revised version of (150) as in (153).

(153) a. \(\nu\) is an agreement marker; the verbal background agrees with a semantically specific focus.

b. Among all the possible alternatives to \(\nu\)-sentences that only differ with regard to the focus value, the pragmatically relevant
set of alternatives is considered, and it is presupposed that at least one of these alternatives is true, or would be true. One of these alternatives is true in those cases in which the alternatives are not counterfactual; it would be true in those cases in which counterfactual alternatives are considered.

This generalization correctly covers the use of prenominate in concessive sentences, which necessarily refer to counterfactual alternative sentences if (part of) the subordinate clauses are in focus, or are C-topics.

Note that prenominate is not generally used in concessive sentences. I assume, in accordance with the findings of section 3.3, that prenominate is used in all and only those concessive sentences in which (part of) the subordinate clause is a C-topic, or is in focus.

Đōu is strongly dispreferred in concessive sentences (cf. (147a)), and I attribute this behavior to the (stipulated) fact that the kind of universal quantification relevant to the interpretation of  đōu-foci is unable to refer to alternative propositions that differ from the asserted proposition in factuality.

B. Concessive conditionals and đōu vs. prenominate

The term ‘concessive conditional’ covers cases as in (154) (= (148)).

(154) a. (arendra) GUOWANG lai, wǒ  đōu/prenominate bù qù.
   Even if king come I  đōu/prem not go
   ‘Even if THE KING comes I won’t go.’

   b. Jiushi GUOWANG lai, wǒ ??đōu/prenominate bù qù.
   Even if king come I  đōu/prem not go
   ‘Even if THE KING comes I won’t go.’

König (1988) also subsumes sentences as discussed in section 4.3.4 under this heading. Both types are indeed very similar, but I have decided in favor of a more fine-grained classification, because concessive conditionals have foci that are straightforwardly encoded on the surface. Sentences with no-matter-elements have, on the other hand, been analyzed as instantiating rather complex information-structures that cannot be immediately read off the surface (cf. the discussion in section 4.3.4).

Our tasks here are to say how đōu and prenominate come to be used in (154a), and what renders the use of đōu strongly dispreferred in sentences such as (154b). To perform these tasks, let us first develop an understanding of the meaning of concessive conditionals.

There are three components of meaning that figure dominantly in the interpretation of concessive conditionals. Two of them have found their way into the name of the construction, i.e. concessivity and conditionality. The third one is the semantics of even whose relevance for English concessive conditionals is clear since they are marked by even if.

What, then, is concessive about concessive conditionals? The answer is easy: With the conclusions of the preceding section in mind, we can say with reference to (154a) that if the king comes, one would usually not stay away, but rather join the crowd and have a look at the monarch.

That is tantamount to saying that the complement of the consequent would usually be assumed to be true under the given circumstances, and this amounts to presupposition (149b). The conditional component is just as obvious: (154a) entails the following conditional: If the king comes I won’t go. Spelled out in terms of the conditional semantics assumed in this study, this amounts to ‘All situations in which the king comes are also situations in which I won’t go’. Even-semantics is relevant because the contribution of jiushi in (154a) amounts exactly to that of even (cf. section 4.3.2 and Krifka 1995) – apart from having a subordinating function: If the fact that the king is coming (i.e. the content of the even-focus) does not make the speaker go out and join the crowd, then nothing else will do. In other words: Within the given context, the presence of the king in town is the semantically strongest condition which could possibly trigger activity on the part of the speaker, and all alternatives to this condition are semantically weaker, thereby entailing the inactivity of the speaker under all alternative circumstances of the same contextual domain.

By now it is probably redundant to state how the triggering of đōu comes about: A focus precedes the structural position of đōu, and jiushi, or the emphatic assertion type (cf. section 4.3.2) forces an interpretation upon the focus such that all alternatives to the asserted sentence are true as well. This is precisely what triggers the use of đōu. prenominate may be used instead because existential quantification, i.e. the type of focus quantification triggering prenominate, is entailed by universal quantification.

(154a) does not present any further difficulties, but (154b) does. Both sentences may be translated by the same sentence into English, and both sentences are almost identical, but in (154b) the use of đōu is strongly dispreferred. The only respect in which the sentences differ is the use of jiushi ‘even if’ as opposed to jiushi ‘even if’. It looks like we have to attribute the deviance of đōu’s use in (154b) to jiushi. In fact, a more general statement is possible: All concessive conditionals in which an even-if-marker containing the syllable/morpheme jiushi is used are bad with đōu, but good with prenominate. Here is a list of examples.

(155) a. Ni jiushi YUANYI xisheng ni-de shijian, you even.if willing sacrifice you-ATTR time
wǒ yě??düō bù nèng jièshòu.
I YE/DČ not can accept
‘If you don’t say it I will know it anyway.’
(ad. XHDC: 441)

All of the examples in (155) would be fine with düō if Jiùshì ‘even if’ were used instead of the Jiùshì-words. The syllable/morpheme Jiù in these sentences is, in fact, not unknown to us: The character 就 is the same as the one used to write parametric Jiù, and its use as a subordinating even-if-word has been mentioned in section 2.2.6. Even though I have not made an attempt to unify the parametric use of Jiù and its use in even-if-words – and I firmly believe that this attempt would not lead anywhere –, I would still like to explore the possibility that both uses share a certain component of meaning. Recall that parametric Jiù has been claimed to reflect negated universal quantification over the domain of focus alternatives. Now assume that Jiù in (155) has a similar function, but in a way which conforms to the function of focus particles: Jiù triggers this focus reading, it does not reflect it. The obligatory use of yě shows us that existential quantification over the domain of focus alternatives is involved. The resulting quantificational type is existential quantification, but with the caveat that not all alternatives are true; or, the other way round, negated universal quantification, but with the caveat that at least one alternative is true. This interpretation might, for instance, be spelled out as follows for (155c): ‘If you don’t say it I will know it, and there are other circumstances under which I will know it, but there is at least one circumstance under which I will not know it’. If this is a good paraphrase of (155c), two consequences follow. First, even if is not a fully faithful translation of Mandarin Jiù-subordinators. This is so because even if involves universal quantification over the domain of alternatives whereas, according to our analysis, Jiù-words exclude precisely this. Second, the

deviance of the use of parametric düō follows without any further stipulations, because parametric düō would reflect a focus reading that is straightforwardly excluded by the Jiù-subordinator: Universal quantification over the domain of alternatives.

Deviations from the discussion of parametric düō and yě in concessives and concessive conditionals have yielded the following results. If we assume an appropriate semantics of concessives, the use of parametric yě in concessives with (partially) focused subordinate propositions follows: Apart from the circumstance which is presupposed to be compatible with the truth of the whole sentence, there must be another circumstance from among the complement of the presupposed circumstance which would also be compatible with the truth of the whole sentence, and this alternative circumstance is more usual as a circumstance for the truth of the matrix proposition. Since the alternative circumstance in concessives must differ from the presupposed circumstance in factuality, an accommodation of our descriptive generalization for parametric yě was necessary. Parametric düō does not allow for such differing factuality statuses, so it may not be used in concessives. The use of düō and yě in concessive conditionals follows without any further stipulations from our standard assumptions concerning the semantics of conditionals and emphatic even-assertions. The strongly dispreferred use of düō in concessive conditionals marked by a Jiù-word probably follows from a conflict among the quantificational types triggered by Jiù-focalizers and the düō-agreement marker.

For conclusions concerning the overall function of parametric düō and yě, turn to section 4.6.

4.4 THE ARCHITECTURE OF THE SYSTEM

Having made our way through the plains of single phenomena, it is now time to climb to an elevated position and study the major lines structuring the whole area. The four types of quantification over domains of focus alternatives that are reflected by parametric Cái, Jiù, düō and yě are another instance of the ubiquitous relevance of the classical quantificational types. These four types come into being by combining existential and universal quantification with inner or outer negation. If, for example, the property of being lazy is discussed with regard to students, the following four basic quantificational assertions are possible: All students
are lazy, Some student(s) is/are lazy, No student is lazy, and Not all students are lazy. No matter what kind of world we live in, or how we restrict our domain of quantification, provided students exist and they may possibly be lazy, at least one of the four statements must be true.  

Löbner (1990) has demonstrated to what extent lexical fields and functional domains in language are structured according to the quantificational square. Concerning focus semantics, König (1991a) has identified the difference among additive and exclusive focus markers as basic. His term 'additive' relates to my 'existential quantification over the domain of alternatives'; 'restrictive' corresponds to my 'negated existential quantification over the domain of alternatives'. The theoretical innovation propagated in this study is the application of the whole quantificational square to focus semantics, and the results are encouraging: It could be shown that the assumption of a full-fledged system of focus-quantificational types is able to shed light on some notoriously dark spots of Mandarin grammar. First and foremost, this applies to the jiù-account: Since the quantificational type triggering the use of jiù, viz. negated universal quantification, is the least common one to be encoded systematically (cf. Löbner 1990), and since jiù’s function has been controversial over decades, the results concerning jiù are probably the most unexpected ones.

What we should do now is test our results against the background of what we know about entailments, contradictions, and other relations holding among assertions that instantiate one of the four focus quantificational types. Two assertions or judgements that only differ with regard to the quantificational type may traditionally be (i) contradictory, (ii) contrary, (iii) subcontrary, or (iv) subalternate. Let us look a bit closer at these relationships, and determine the kind of predictions we should be able to make in our empirical domain. The introductory examples are all of the lazy-student kind, but recall that these sentences quantify over subject denotations, while our Mandarin focus phenomena involve quantification over alternatives. I will often use mnemonic operator symbols in the following which are, of course, not to be mistaken as formal representations of quantificational formulae.

(i) Contradictions
The sentences No student is lazy (¬∃) and Some student(s) is/are lazy (∃) are contradictory, because it is impossible that both are true or that both are wrong at the same time, and in the same context. Note that the two sentences comprise among them all possible situations if we try to quantify the pervasiveness of laziness among students, because Some students are lazy would allow for the possibility that all students are lazy.43 Another contradictory pair is All students are lazy (∀) and Not all students are lazy (¬∀).

Applied to Mandarin focus semantics we would predict that the relevant components of meaning in cāi-sentences (¬∃) and in yé-sentences (∃) should be contradictory, just like those in dōu-sentences (∀) and in jiù-sentences (¬∀).

(ii) Contraries
The contrary sentences All students are lazy (∀) and No student is lazy (¬∃) may, just like contradictions, not be true at a time, and in the same context. They differ from contradictions in that both may be false (probably the right option in the real world) because it may be true that only some students are lazy.

In Mandarin we would expect to find that the focus-semantic components of dōu-sentences (∀) and cāi-sentences (¬∃) are contraries of each other.

(iii) Subcontraries
Subcontrary sentences such as Some student(s) is/are lazy (∃) and Not all students are lazy (¬∀) can both be true at a time, and in a single context, but they may not both be false (No student is lazy and All students are lazy results in a contradiction).

Mandarin focus semantic instantiations of subcontrariety should be expected among yé-sentences (∃) and jiù-sentences (¬∀).

(iv) Subalternates
Subalternate sentences display one-way entailments. While No student is lazy (¬∃) entails Not all students are lazy (¬∀) and All students are lazy (∀) entails Some student(s) is/are lazy (∃), the reverse is not true.

In Mandarin, the focus semantics of cāi-sentences (¬∃) should thus entail the focus semantics of jiù-sentences (¬∀), and the focus semantics of dōu-sentences (∀) should entail the focus semantics of yé-sentences (∃).

The relations between assertions instantiating specific quantificational types, their respective properties, and the relevant pairs of Mandarin parametric words are summarized in Table 4.2.

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43 The feeling of deception that we have when somebody says 'I ate some of your candy' while he has really eaten all of my candy is usually attributed to a Gricean implicature, but in the lofty halls of logic, implicatures do not count.
I will now proceed as follows: I will test for each possible relational type whether intuitions can be matched with the predictions summarized in Table 4.2. To do so, I will pursue the following line of argumentation. We will generally oppose two sentences supposedly instantiating one of the possible relationships holding among their focus semantic components of meaning, and we will check whether the intuitions can be matched with our predictions. This is easily done in most cases. The only oppositions which require more discussion are the ones involving jiù-sentences, and the subcontrary relational type.

For (156) it is easy to see that we are really dealing with a contradiction: Either the speaker goes out only once as in (156a), or the speaker goes out at least twice as in (156b); an option combining both alternatives does not exist. The problem in (157) is that (157a) and the English translation of (157b) without the explicating brackets are not contradictory, but the Mandarin sentences, in their focus semantic components, are. In section 4.2.2 the required argument for jiù has first been stated: Jiù’s quantificational type excludes the possibility that all alternative sentences are true. Since I never had difficulties in eliciting precisely this result
with my consultants, I take it to be an established fact (cf. also the discussion in the sub-section on subalternates below). *Dōu*’s focus quantificational type (’even-semantics’) has it that all contextually relevant alternatives are implied to be true. Taking these two things for granted, the non-native speaker of Mandarin will likewise be able to sense the contradiction between (157a) and (157b).

**B. Contraries: cāi vs. dōu**

A contrary relation is defined as one in which both assertions may not be true at a time, but both assertions may be false. Cāi’s and dōu’s focus-semantic quantificational types are predicted to stand in a contrary relationship as witnessed by Table 4.2 and Figure 4.5. Pertinent examples are presented in (158).

(158) a. (Zhīyǒu) GUOWANG lái -de shìhou, wǒ cāi bù qu. only king come -when I CAI not go

‘I only don’t go when the KING comes.’

b. (Jiūshǐ) GUOWANG lái -de shìhou, wǒ dōu bù qu.
even.if king come -when I DOU not go

‘I don’t even go when the KING comes.’

(158a) says that there is only a single thing that makes the speaker stay at home, and that is the fact of the king coming. (158b), on the other hand, says that, apart from the king coming, all other contextually relevant things have the same consequence: The speaker will stay at home. It is thus impossible to use both sentences in (158) in a single situation. The second characteristic of contraries – both assertions may be false – likewise holds: Suppose the speaker never goes out on the street if the king or a politician (with the king not counting as a politician) may be

seen in public, but he loves to take pictures of movie stars. Such a person could either utter (158a) nor (158b) felicitously, or without saying a lie if the universe of discourse remains constant. For cāi and dōu we really seem to be dealing with a contrary relationship among types of focus quantification.

**C. Subalternates: cāi vs. jiū / dōu vs. yě**

The relationship among plain cāi-sentences and plain jiū-sentences is as predicted: (the focus-semantic component of) (159a) entails (the focus-semantic component of) (159b), but not vice versa.

(159) a. GUOWANG lái, wǒ cāi qu.

king come I CAI go

‘Only if the KING comes will I go.’

b. GUOWANG lái, wǒ jiū qu.

king come I JIU go

‘If the KING comes I will go.’

It is, for instance, possible to utter (159b) first, and then get more specific by uttering (159a). Both sentences may easily be interpreted as either conditionally or temporally restricted; cf. the two English translations each. In both cases the (focus-semantic) entailment relation from the a-sentence to the b-sentence holds, since the negation of the truth of all alternatives as in (159a) entails the negation of the truth of some alternative as in (159b). For the opposite direction, imagine a situation in which the speaker joins the crowd whenever a member of the royal family may be seen in public. In this case (159b) in its conditional reading would be true, but not (159a), as predicted by the assumed subalternation relation. The same argument is easy to state for the temporal readings.

Whenever specific markers are used that restrict the focus in such a way that only negated existential quantification over the domain of alternatives is possible, jiū may not be used; cf. the use of *chūfēi* ‘only if’ in (159’).

(159’)CHUFEI GUOWANG lái, wǒ cāi/ *jiū* qu.

only if king come I CAI/JIU go

‘Only if the KING comes I will go.’

The incompatibility of *chūfēi* ‘only if’ and jiū does not fall out for free in my account because the type of focus quantification triggered by *chūfēi* is a limiting case of those cases covered by jiū’s negated universal quan-
tification. I must assume quite ad hoc that, in the case of cài vs. jiù, the more specific agreement marker/parametric word must be used if the specific interpretation is overtly encoded. We will see that dōu and yě differ in this respect. Before turning to these words, let us study facts analogous to those in (159) for simple sentences. This is done in (160)/(160').

(160) a. Zài ZHÈR wōmen cài nièng wánr.
    at here we CAI can play
    'We can only play HERE.'

b. Zài ZHÈR wōmen jiù nièng wánr.
    at here we JIU can play
    'We can play HERE[ but we cannot play at all other places].'

(160') Zhǐyǒu zài ZHÈR wōmen cài/\jiù nièng wánr.
    only at here we CAI/JIU can play
    'We can only play HERE.'

(160a) entails (160b), but as soon as the focus is overtly marked by an only-word as in (160'), jiù may not be used anymore.

Pairs of sentences—complex and simplex—for the opposition dōu vs. yě are given in (161) and (162).

(161) a. Nǐ Bù shuō, wǒ dōu hui zhīdào.
    you not say I DOU will know
    'I'll even know it if you DON'T say it.'

b. Nǐ Bù shuō, wǒ yě hui zhīdào.
    you not say I YE will know
    'I'll also know it if you DON'T say it.'

(162) a. Dìdì BÌNGQILIN dōu bù xiāng chī.
    younger brother ice-cream DOU/\YE not want eat
    'The little brother doesn't even want to eat ICE-CREAM.'

b. Dìdì BÌNGQILIN yě bù xiāng chī.
    younger brother ice-cream YE/\not want eat
    'The little brother doesn't want to eat ICE-CREAM, either.'

Both a-sentences entail the b-sentences, but the b-sentences do not entail the a-sentences; this is as predicted, because universal quantification (over alternatives) entails existential quantification. Examples (161') and (162') are the corresponding sentences with overt focus markers.

45 The assumption is rendered less ad hoc by the fact elaborated on in footnote 44 above that the focus semantics associated with cài involves entailment, while that associated with jiù involves presupposition.

These sentences illustrate the difference emerging in comparison with the corresponding pair cài vs. jiù: Both dōu and yě may be used in the presence of an overt focus marker which enforces the universal focus reading (i.e. quantification over each member of the domain of alternatives). It is true that universal quantification and existential quantification are not contradictory, so this might not be a surprising fact, but the analogous constellation involving negated existential quantification and negated universal quantification in (i) was handled differently by Mandarin grammar: The less specific marker (yě) may be used here, while it was bad in the previous case (jiù in (159') and (160')).

Sentence (163) is a reminder of the fact stated in section 4.3.5.B: Jiūšhí marks its focus for negated universal quantification, and therefore, it is only compatible with parametric yě (2), but not with parametric dōu (4).

(163) Jiūshì nǐ Bù shuō wǒ yě? dōu hui zhīdào.
    even.if you not say I DOU/YE will know
    'I'll even know it if you DON'T say it.'

D. Subcontraries: jiù vs. yě

(164) provides a pair of sentences with a subcontrary relationship between the focus quantificational structures involved.

(164) a. GUÓWANG Lài-de shìhou, wǒ jiù qū.
    king come -when I JIU go
    'I go when the KING COMES[ but I will not go at all other times].'

b. GƯÓWANG Lài-de shìhou, wǒ yě qū.
    king come -when I YE go
    'I also go when THE KING COMES.'

A subcontrary relationship has it that both subcontraries may be true, but they may not both be false. In this case we have to be especially careful not to confound the logical relationship holding among the complex propositions as such with the logical relationship holding among their quantificational structures in focus semantics. The subcontrary relation holding between the focus-semantic components of meaning in (164a) and (164b) does not predict that one of the two sentences should
be true, no matter what the circumstances are. This would be absurd. The subcontrary relation among the focus meanings will result in a contradiction if, in some context, either sentence is false, and the other were claimed to hold true. Suppose the situation is such that I even go when the king comes, i.e. the presupposition is that I go in all alternative situations, too. According to our argument repeated several times by now, the focus semantics associated with jiù as in (164a) is incompatible with such a situation, because this sentence presupposes that there is at least one alternative situation in which I will not go. So (164a) is inappropriate, but, (164b) is perfectly fine: If I go in all other situations, I also go in some other situation. The reverse argument can be stated in an analogous fashion. Suppose I only go if the king comes, but I am not interested in any other situations in which VIP’s can be seen in public. In this scenario (164b) will not be the right thing to say, but (164a) will. The logic relationship between the focus semantic components of meaning in pairs of sentences contrasting jiù and ye is really that of subcontrariety.

Having gone through all the possible pairings, we may say that the predictions derived from the propositional logic of quantificational propositions are fully borne out: The quantificational square as depicted in Figure 4.5 reflects the real organization of the focus-semantic meaning components of sentences with parametric cài, jiù, dōu and ye.

4.5 RESIDUAL PARAMETRIC WORDS: HÀI 還 AND ZÀI 再

I shall now turn to some peripheral elements of the class of parametric words that have to be included in a complete description of the system of grammaticalized focus quantification in Mandarin. I will distinguish two types of such parametric words, and I will locate the overall position of these further elements within the system. I will restrict myself to a very sketchy discussion, hoping to be able to return to the issue in the future.

The first class of additional parametric words is represented by the word biàn 便, which is a one-hundred-percent variant of our familiar parametric word jiù, the only difference being the appropriate register of its use. Biàn may be used instead of parametric jiù without ever influencing grammaticality, and it is, e.g., regularly used as a substitute of jiù in newspaper writing; Jiù and biàn, moreover, interchange in other elevated registers of the written language.

The second class is more interesting. It includes at least the words hài 還 and zài 再. Both of them relate to a quantificational type, but each of them reflects a more specific focus semantics going beyond the reflection of the mere quantificational type. I will look at them one by one.

Hài ‘moreover; still’ has recently been discussed by and Yeh (1998) and Liu (2000). There are good reasons to analyze many uses of hài in the same way as the English scalar particle still or its German equivalent noch. The standard analyses of these words were developed by König (1977) and Löbner (1989), and Yeh’s and Liu’s analyses are based on their results. Here is an example of a non-parametric use of hài.

(165) Lào Zhăng hài zài shuí jiào.
Old Zhang still ASP sleep
‘Old Zhang is still sleeping.’ (Yeh 1998: 237)

The general idea of Yeh’s (and also Löbner’s) analysis is to say that, in a sentence like (165), hài ‘still’ signals two things. Apart from the assertion concerning the reference time (the moment of utterance in (165)), there must have been an earlier point in time at which Old Zhang was already sleeping; (165) would be false if Old Zhang had been asleep some time ago, but were no longer asleep at the reference time. If the time of Old Zhang’s being asleep is marked by an interval p on the time line, the reference time of the assertion must be within p and to the right of some other contextually relevant point in time within p. (165) would be false if the non-p-interval had already started before the reference time. Note in passing that in sentences like (165), hài may always be dropped without influencing grammaticality.

Hài has developed a full-fledged parametric use in sentences as in (166). It may not be dropped, it must be preceded by its interacting focus, and it does not, by itself, trigger specific focus readings. The temporal scale indicative of the use as a scalar particle need not be traceable.

(166) a. [When it comes to leading the way for others, that’s even more difficult, because ...] liǎn wǒ zúlì hài bù míngbài yīngdāng zěnme zǒu.
even I self HAI not understand should how go
‘even I MYSELF do not know which way to go.’
(cf. Eifring 1995: 337)

46 Probably zòng 總, which means ‘always, invariably’ in its non-adverbial use, should also be included here as a specialized variant of parametric dōu. I lack sufficient data to make this point in a satisfactory way, so I will leave it at that.

47 Allerton (1972) has also devoted a section of her book to hài, but she does not identify it as parametric use.
Focus and background marking in Mandarin

I must assume quite ad hoc that, in the case of cāi vs. jiǔ, the more specific agreement marker/parametric word must be used if the specific interpretation is overtly encoded. We will see that dōu and yě differ in this respect. Before turning to these words, let us study facts analogous to those in (159) for simple sentences. This is done in (160)/(160').

(160) a. Zài ZHER wǒmén cāi nèng wānr.
   'We can only play HERE.'
   at here we CĀI can play

b. Zài ZHER wǒmén jiǔ nèng wānr.
   'We can play HERE[,] but we cannot play at all other places.'
   at here we JIŪ can play

(160') Zhīyǐ dé zài ZHER wǒmén cāi/*jiù nèng wānr.
   only at here we CAI/JIŪ can play

(160a) entails (160b), but as soon as the focus is overtly marked by an only-word as in (160'), jiǔ may not be used anymore.

Pairs of sentences – complex and simplex – for the opposition dōu vs. yě are given in (161) and (162).

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   'I'll even know it if you DON'T say it.'

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   you not say I YÈ will know
   'I'll also know it if you DON'T say it.'

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   younger.brother ice-cream DOU not want eat
   'The little brother doesn't even want to eat ICE-CREAM.'

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   younger.brother ice-cream YE not want eat
   'The little brother doesn't want to eat ICE-CREAM, either.'

Both a-sentences entail the b-sentences, but the b-sentences do not entail the a-sentences; this is as predicted, because universal quantification (over alternatives) entails existential quantification. Examples (161') and (162') are the corresponding sentences with overt focus markers.

D. Subcontraries: jiǔ vs. yě

(164) provides a pair of sentences with a subcontrary relationship between the focus quantificational structures involved.

(164) a. GUOWANG Lái-de shihou, wǒ jiǔ qu.
   king COMES-[when I JIŪ go
   'I go when the KING COMES[, but I will not go at all other times].'

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   king COMES-[when I YÈ go
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The second class is more interesting. It includes at least the words hái 还 and zài 再.46 Both of them relate to a quantificational type, but each of them reflects a more specific focus semantics going beyond the reflection of the mere quantificational type. I will look at them one by one.

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(165) Lào Zählg hái zài shuǐ jiào.

Old Zhang still ASP sleep

‘Old Zhang is still sleeping.’ (Yeh 1998: 237)

The general idea of Yeh's (and also Löbner's) analysis is to say that, in a sentence like (165), hái 'still' signals two things. Apart from the assertion concerning the reference time (the moment of utterance in (165)), there must have been an earlier point in time at which Old Zhang was already sleeping; (165) would be false if Old Zhang had been asleep some time ago, but were no longer asleep at the reference time. If the time of Old Zhang's being asleep is marked by an interval p on the time line, the reference time of the assertion must be within p and to the right of some other contextually relevant point in time within p. (165) would be false if the non-p-interval had already started before the reference time. Note in passing that in sentences like (165), hái may always be dropped without influencing grammaticality.

Hái has developed a full-fledged parametric use in sentences as in (166). It may not be dropped, it must be preceded by its interacting focus, and it does not, by itself, trigger specific focus readings. The temporal scale indicative of the use as a scalar particle need not be traceable.

(166) a. [When it comes to leading the way for others, that's even more difficult, because ...]

liàn wǒ zìjǐ hái bù mèngbāi yǐngdāng zěnme zǒu.
even I self HAI not understand should how go 'even I MYSELF do not know which way to go.'

(cf. Eifring 1995: 337)

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46 Probably zōng 总, which means ‘always, invariably’ in its non-adverbial use, should also be included here as a specialized variant of parametric dōu. I lack sufficient data to make this point in a satisfactory way, so I will leave it at that.

47 Alleton (1972) has also devoted a section of her book to hái, but she does not identify its parametric use.
grammatical) and the semantics it encodes semantic bleaching that is typical of grammaticalization: The use of an crue l kinds of behaviour independent of time. This nicely illustrates the clearest in (166d) where a generic statement is made. Its interpretation presupposes the existence of an earlier point in time at which the proposition asserted to be true at the reference time was already true. This is a special kind of existential quantification over the domain of potentially uncountable entities. ...It is not difficult to see that the lexical semantics of hai in its original focus-sensitive use as a phasal adverb and the conditions of use triggering parametric ye (and also dou) are partially identical. Hai’s basic function presupposes the existence of an earlier point in time at which the proposition asserted to be true at the reference time was already true. This is a special kind of existential quantification over the domain of alternatives, and I claim that it is this similarity which has allowed hai to enter into the paradigm of parametric words. Two differences come to mind when the distribution of parametric hai as opposed to its lexical origin hai ‘still’, and its paradigmatic partner ye are compared. Although parametric hai is compatible with temporal interpretations of the still-kind, it does not require a specific temporal setting anymore. This is clearest in (166d) where a generic statement is made. Its interpretation presupposes a scale, but it is not temporal. It is a scale of potentially cruel kinds of behaviour independent of time. This nicely illustrates the semantic bleaching that is typical of grammaticalization: The use of an item is less open to the choice of speakers ((166d) without hai is ungrammatical), and the semantics it encodes have become less specific. Parametric hai is not a variant of parametric ye, though. It is more specific than ye in that the considered alternatives must be lower on the relevant scale than the asserted value. This is, of course, part of hai’s lexical inheritance, and this relic has a neat consequence: Parametric hai is excluded in negative polarity contexts in which no lower values may be assumed to exist; cf. (167).

(167) Wǒ tōu yǐ-diān rào dōu/ye/*hai bù tòng.
I head 1-CL.bit DOU/YE/HAI not hurt
‘My head doesn’t hurt THE SLIGHTEST BIT/AT ALL.’

I think it has become clear in this short survey of parametric hai-uses how a more specific parametric word may have its position within the system of grammaticalized markers of focus quantificational types in Mandarin. I will try to do the same for zai in the paragraphs to follow.

Zai is another one of the notoriously polysemous items in Mandarin dictionaries (cf. the discussion of zai as a negative polarity item in section 4.3.3.A). Its synchronically basic use is that of an adverb of (future/hypothetical) repetition ‘once more (in the future/in a hypothetical situation)’. (168) is an example of this basic use.

(168) Wǒ zài hē yi-běi.
I once more drink 1-CL:cup
‘I’ll have another glass.’

In this use, zai may usually refer to future or hypothetical situations only, so we often find it embedded under appropriate modal verbs, and in commands and requests. Situations in which the reference point is not the time of utterance, but rather a moment in the past, are indicative of the fact that what really matters is posteriority (cf. Liu 1999). Moreover, Allerton (1972: 103) points out that in temporal adverbial clauses embedded under -de shihou ‘(the time) when’ the posteriority restriction is neutralized.

Concerning zai’s lexical semantics, we may say that its felicitous use presupposes that an action identical in type to the one projected in the future, or in a hypothetical situation must precede, or have preceded the future or hypothetical action.

In contradistinction to the case of hai, this only helps us very little when it gets to analyzing the parametric use of zai. Some pertinent examples have been collected in (169).

(169) a. Tǐshí dǎngqián, xiǎn ti zǐjǐ dà suān,
whatever.it.is first for self consider
RÁNIHOU zài ti bìrén dà suān.
after that ZAI for other people consider
In all kinds of matters, people think of themselves first, and (only) THEN {will they/they will} think of other people.' (hx: 716)

b. WÒ HULQ KÄOLU YI-XIÀ, wó zài gào-su nǐ zēnme bān. I return ponder 1-CL:bit I ZAI tell you how handle 'I'LL RETURN HOME AND THINK ABOUT IT, and (only) THEN {will I/I'LL} tell you what to do.' (rp: 19)

c. WÒ DÈNG JI-TIÀN, zài hē niàng shuò qu. I after some-CL:dayZAI with mum speak go 'Only AFTER A COUPLE OF DAYS {will I/I'LL} talk to Mum.' (Alleton 1972: 114)

d. MINGNIAN zài kàn ba48 next year ZAI see PRT 'Let's wait until NEXT YEAR and decide (only) THEN.' (Alleton 1972: 100)

With the exception of some data in the following chapter, there are probably few sentences in this study which are as hard to translate into English as these examples. The problem is that the interpretation of the sentences somehow oscillates between readings with, or without only.

Alloton (1972) analyzes the function of parametric zài as that of a more specific paradigmatic partner of parametric cài. She justifies this move by saying that parametric zài may always be replaced by cài without influencing grammaticality or the felicity of the utterance, but the reverse is not true: Zài may not always replace cài.

I analyze parametric zài-sentences as follows: First, the asserted sentence and the alternative sentence(s) must be ordered with respect to a temporal scale. This may be the case in cài-sentences, but it need not. Second, only a single alternative is considered, and this single alternative is excluded. I thus claim that the cardinality of the set of focus alternatives of zài-sentences is restricted to 1. In such a situation it makes no difference whether one assumes negated existential quantification or negated universal quantification: If there is only one alternative to be considered, excluding some alternative, or all alternatives does not make a difference. This is in accord with what Alloton says, except that it would be equally plausible to state the analysis in jìù-terms, i.e. in terms of the parametric word reflecting negated universal quantification over the domain of alternatives. Applied to the sentences in (169), this analysis pre-

48 This sentence possibly has a second reading in which zài is interpreted as ‘once more’ as discussed above: ‘We’ll have another look at it next year’. This reading is irrelevant here.

dicts that the points in time between the time of utterance (or the generic anterior time) and the reference time do not matter at all. In (169a), for instance, only the binary choice between deciding now, or in a year matters, the points in time in between are simply not at stake. This analysis does justice to the intuition that an account in terms of a specialized only-semantics would somehow overstate the case: Parametric zài-sentences simply do not imply anything about possibly many alternative sentences, they stick to a single alternative. Therefore, they sound a lot more moderate and, in directiv speech-acts, less harsh than otherwise identical cài-sentences.

My concluding remark on parametric zài concerns the particle’s lexical inheritance. Recall that zài’s basic use is translated as ‘once more’ into English, and I said above that this only gives us a small hint at the analysis of parametric zài. It does give a hint, though. Both repetitive zài and parametric zài involve reference to a singular thing: Numbers of repetitions for the once-more-use, and numbers of focus alternatives along a temporal scale for the parametric use.

As in the case of parametric hài, our tool-box has proved to be sufficiently equipped for the handling of parametric zài. While hài has been the first Mandarin case to show us that alternatives of parametric sentences may have to be ordered along a scale, parametric zài has added a restriction on the cardinality of the set of focus alternatives.

4.6 CONCLUSIONS OF CHAPTER 4

In this chapter I have established the following major points.

The four parametric words discussed in this study constitute the core of the Mandarin system of focus quantification. Each of the four words represents one basic quantificational type.

Parametric cài (see section 4.1) reflects negated existential quantification over the domain of focus alternatives (¬∃). Apart from covering the empirical domain of only-if-sentences, I have also proposed a solution to the notoriously difficult not-until-readings. This solution is based on the assumption that temporal adverbials in cài-focus are interpreted like English until- adverbials.

The focus quantificational type of parametric jìù (see section 4.2) is negated universal quantification over the domain of alternatives (¬∀). This analysis allows us to derive the use of jìù in complex sentences with a focus, or a C-topic in the subordinate clause which come out as conditional sentences in English. It could be shown that the meaning of if-conditionals and that of jìù-conditionals do not fully coincide, but they are sufficiently similar to constitute good translational equivalents in
Focus and background marking in Mandarin

most cases. The domain of focus alternatives relevant in jiu-sentences must be able to contain members referring to situations that differ in factuality from the asserted proposition.

Parametric dōu (treated in section 4.3) is associated with universal quantification over the domain of focus alternatives (∀). This analysis is able to cover dōu's use in even-sentences, in negative-polarity contexts, in concessive conditionals and, with some extra-assumptions, also its use in sentences with free-choice interpretations of wh-words/indefinite pronouns.

Parametric yē (likewise covered in section 4.3) reflects existential quantification over focus alternatives (∃). As with jiu, the alternative situations may differ in factuality, thereby allowing parametric yē to be used in concessive sentences. Otherwise, the distributions of dōu and yē overlap heavily, and this can be made to follow from the subalternate relationship of the quantificational types reflected by dōu and yē.

If pairs of sentences differing only with regard to the parametric words used are tested against the background of what we know about the logical relations that hold among the four basic quantificational types, the results are as predicted. This kind of testing was done in section 4.4.

There are more specific members of the paradigm (hài and zāi), which, apart from reflecting one of the basic types of focus quantification, also presuppose more specific things: A scalar ordering of alternatives in the case of hài, and a cardinality of the set of relevant alternative anterior points in time which is restricted to 1 in the case of zāi (see section 4.5).

Table 4.3 depicts the focus-semantic and presuppositional endowments of those contexts which trigger the use of parametric words. A representation in terms of features is chosen, but nothing hinges on this (except for the fact that I claim that the whole system of focus quantification in Mandarin is organized in categorical terms, and not in terms of fuzzy boundaries or degrees). Features that are left unspecified for single focus types are not included in the feature representations of the respective focus types. I contract the features of quantificational types and negation vs. assertion into a single feature, except in the case of zāi, for which I claim that the difference between existential and universal quantification is irrelevant because of the cardinality restriction on zāi-alternatives.

Table 4.3 concludes the main part of this study.
This chapter has four parts. Section 5.1 describes a problem that arises in many sentences with parametric cāi, jīu and zāi: At a first glance, facts of syntactic and of semantic scope systematically fail to coincide, and three different solutions to the problem will be shown not to solve the problem in a satisfying way. Only a more radical proposal involving tripartite modal structures, combined with the assumption of matrix clause restrictors, will be able to settle the problem. Section 5.2 picks out a well-defined class of sentences with parametric cāi and jīu in which the predicates following the particles have acquired a conventionalized modal function. In section 5.3 I will review a three-way ambiguous English sentence and its univocal translations into Mandarin. All of them are relevant to the discussion of parametric words and the problems of scope interaction, with the latter being the recurrent topic of this chapter. The final section 5.4 characterizes the conditions in which more than a single parametric word may be used per clause, examples are given of each possible combination, and some tasks for further research are delimited.

5.1 PROBLEMS OF SCOPE INTERACTION AND SYNTAX

5.1.1 The problem stated

To get a first impression of the kind of data to be dealt with in this section, have a look at (1) (cf. Eifring 1995: 231).1

(1) Ò bìxù qù dàshīguān, cāi nèng shēnqīng qiānzhēng.
(s)he must go embassy cāi can apply for visa
'(S)he must go to the embassy to be able to apply for a visa.' 1 /
'Only if (s)he goes to the embassy can (s)he apply for a visa.'

Upon first inspection, (1) seems to be an average cāi-sentence: The first conjunct delimits the set of situations within which the second conjunct is true, and no other possibilities exist. The problem has to do with the use of bìxù 'must' in (1). If we render the sentence as an only-if-conditional in English without omitting this modal verb, we get a wrong translation: Only if (s)he has to go to the embassy can (s)he apply for a visa. The

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1 I will not mark foci in this section, because the information structure of the sentences is not our major concern here.
Focus and background marking in Mandarin

obligation to go to the embassy doesn’t, of course, influence the outcome, it is only the question of going or not going to the embassy that matters. If we want to retain the modal verb in our translation, we must resort to a purposive construction as in the first translation of (1). If we prefer a conditional construction, we must drop the modal of necessity. In case we decide in favour of a purposive construction (and many researchers tacitly do so without mentioning the consequences; cf. numerous pertinent examples in Allerton 1972, Paris 1981 or Eifring 1995), we face the problem that the facts of syntactic dominance are switched: In the first translation of (1), the main clause precedes the subordinate purpose clause, but in the Mandarin sentence the first clause is subordinate. Readers who are suspicious about this point may want to study (2), an attested example which settles the case.

(2) Yao deng nimen jiiao-le jieshaofei yihou, it is necessary wait you pay-ASP commission after ca'i kuiyi gei nimen anpai. (cf. rp: 26) 
CAI can for you arrange 
'We have to wait until you have paid the commission before things can be arranged for you.'/"Only after you have paid the commission can things be arranged for you.'

In (2) the clause-final marker of subordinate temporal clauses yihou "after" is used, and thus there is no doubt that the first conjunct of (2) is a subordinate clause. From the point of view of syntax, the second English translation should thus be given preference. If we want to retain the impersonal necessity operator yao 'it is necessary' of the first clause, we are forced to switch to a purposive (temporal) construction with a superordinate initial clause in English. Whatever we do, we must ignore one fact: Either the overall syntax, or the modal operator in the first clause. Sentences as in (1) and (2) are by no means marginal phenomena; they frequently occur in speech and in writing. A collection of parallel data for ca'i, jiu and zai is given in (3) through (5).2

(3) a. Ta bixu xia yi rai ca'i lai. (Eifring 1995: 223) 
(s)he must fall rain CAI come 
'It must rain in order for him/her to come.'/"Only if it rains does (s)he come.'

b. Ta itai yiding yao zhangwo xiansheng-de hebao, wife definitely must control husband-ATTR purse

2 I have not found any parallel data for dou or ye. I do not know whether there is a principled reason for this.

(4) a. Zhi-yao san-ge ren only-need 3-CL people
jiu ban dedong zhesi jiu ganggan le. (cf. section 5.3)
JIU can move this-CL piano LE
'Only (as few as) three people are needed to be able to move this piano./'If there are three people this piano can be moved.'

b. Ta zhi-yao gui dadsguan jin tong shengqing qiangzheng. (s)he only must go embassy JIU can apply for visa
'(S)he only has to go to the embassy to be able to apply for a visa./'If (s)he goes to the embassy, she can apply for a visa.'

(5) Womein zhihao xian huai na-le qian we must first return take-ASP money zai lai baoming. (rp: 51) 
ZAI come sign up
'We'll have to return home first and get the money before we can come back and sign up.'/"We'll only come back and sign up after we have returned home to get the money.'

5.1.2 Some unsatisfactory solutions
The dilemma itself, and some possible analyses are schematically represented in (6) and (6').

(6) Sentential make-up: [[NEC p]cai/jiu/zai q] translation into English: NEC[p[in order for q to come about]] or: (only) NEC ifp, then q3

(6') a. The implicit anaphora solution: 
NEC p & [ifp] implicit, cai/jiu/zai q] 
b. The reanalysis solution: 
(NEC->CONJ p, cai/jiu/zai q] 
c. The ad-hoc means-clause solution: 
[NEC p] means-clause, cai/jiu/zai q, (but interpret NEC with matrix scope!)

3 Strictly speaking, this representation is not quite exact if jiu-sentences are to be covered. Recall that the semantics of jiu-conditionals differs from if-conditionals: Jiu-conditionals exclude at least one alternative.
I will briefly discuss each of these three attempts at resolving the paradox, but all of them will be discarded. The first solution is probably what comes to mind most easily when confronted with the problem: Why not simply say that sentence (3a) is interpreted as ‘It has to rain, and only if it rains does (s)he come’? Note that it is a cross-linguistically attested phenomenon to find resumptive elements that do not include the modal information of their antecedents; cf. (7).

(7) You have to practise, only then can you win.

In (7) the antecedent of then is you practise, and not you have to practise, and this would be similar to the Mandarin case if we opted for the implicit anaphora solution. An analysis along these lines might thus really be possible, but at least one problem would have to be tackled to make it work: The sentence in (7) would be fine without the first clause; we would predict, then, that parallel Mandarin sentences should be fine without their first clauses, too, the only difference to the English sentences being that the anaphoric element is implicit. What we find is that none of the sentences discussed above is grammatical or has a parallel reading if the first clauses are dropped.

The reanalysis solution would say that the alleged necessity operators in (1) through (5) are really subordinating conjunctions, and that they are only diachronically related to the necessity operators. This solution has something for it, because the undoubtedly subordinating conjunction yào ‘if’ seems to have developed along precisely these lines (cf. the identical character 要 ‘yào’ in yào shì and in (zhī-)yào as in (2) or (4b)). If we were to adopt this analysis, we would be confronted with the problem of a systematic homonymy between necessity operators and subordinating conjunctions, because all necessity operators may be used in sentences of the type discussed here. Another argument against the reanalysis solution is the strong intuition that the allegedly bleached necessity operators in the above sentences are not at all void of modal meaning.

The ad-hoc means-clause solution is the most agnostic one: It would amount to saying that Mandarin, in contradistinction to other languages, does not make use of subordinate purpose clauses in the cases at hand, but rather of subordinate means clauses such that what amounts to purpose clauses of other languages are the matrix clauses in Mandarin. This would switch the facts of subordination around. We would then have to stipulate that the (necessity operator of the) means clause takes semantic scope over the purpose clause, thereby running against the syntactic facts.

Whichever solution from among the three possibilities in (6) one chooses, one will always have to accept some undesired consequence. This result is so unsatisfactory that we should try a bit harder. In the end, these constructions, if used in ordinary language, do not have the slightest “feel” of sentences with untidy scopal relations. By turning to the quantificational structure of modality in the following sub-section, I want to sketch along what lines a more appropriate analysis will probably have to be developed.

5.1.3 Solving the problem with an unusual constituency of tripartite structures

One way to approach the problems of scope and subordination in sentences like (8) (= (1)) is to say that the focusing on conditional vs. purpose constructions is misguided.

(8) Tā bǐxǔ qù dàshīguǎn, cái nèng shēnqīng qiánzhèng. (S)he must go embassy CAI can apply for visa.‘(S)he must go to the embassy to be able to apply for a visa.’

‘Only if (s)he goes to the embassy can (s)he apply for a visa.’

So far, we have always pretended that we have to decide in favour of one of these options, each of them leading to its own paradox: Either the syntactic facts of subordination and semantic scope relations fail to coincide, or the modal as such is in the way. An alternative way of analyzing sentences as in (8) is the following: In the tripartite quantificational structure underlying these modalized sentences, the modal constitutes the quantifier, the subordinate clause represents the nuclear scope, and the main clause encodes the restrictor, in this case the circumstantial modal base or accessibility relation. Since no inherent hierarchy exists between the three ingredients of quantification (cf. Partee 1995: section 3.3), the fact that Mandarin should assign the restrictor a superordinate syntactic position is not a problem. To understand this analysis, we will have to familiarize ourselves with the semantic theory of modality put forward by

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1 The revision of this section has benefitted a lot from Kai von Fintel’s teaching at the DGIS/LSA Summer School held at Düsseldorf in July 2002. While the sloppiness of the implementation is my fault, Kai’s class has opened my eyes to the true constituency of modality, and it has enabled me to understand Kratzer’s (1981, 1991a) theory more thoroughly. The second major stimulus was Partee’s (1995) work, which I had read a long time ago, but could, at that time, not understand to the degree that was necessary to really be of any help.
Kratzer (1981, 1991a). I present a slightly more detailed introduction to her theory here, which is justified by the fact that we will be able to put Kratzer’s theory to a second use in section 5.2. The way I present Kratzer’s theory does not do full justice to Kratzer’s explicit work. Still, I hope that its gist is fully preserved in the way I make use of it.

Kratzer claims that the notional category of modality can be parameterized along three dimensions.

The first dimension concerns the modal force of an instance of modalization: Are we dealing with necessity, weak necessity, a good possibility, impossibility, or any other modal force? A suggestive phrasing of what matters for dimension 1 is: ‘How strong is the necessity or the possibility?’ If mapped to a quantificational structure, this dimension amounts to the quantifying operator of a tripartite quantificational structure. The most typical quantifiers are the universal quantifier ∀ (this amounts to necessity), and the existential quantifier ∃ (this amounts to possibility).5

Dimension 2 is concerned with the modal base: Is the necessity or possibility stated with respect to what follows from facts, or with respect to what follows from knowledge? The second case is called epistemic modality: The possibility or necessity is stated with regard to what the speaker knows, and what can be concluded from this knowledge. The other possibility is called ‘circumstantial’ by Kratzer; in other traditions it is often referred to as ‘root modality’. In this case we do not ask ‘What may or must follow from our knowledge?’, but rather ‘What may or must follow from the (accidental) facts?’ Kratzer has demonstrated that the distinction between epistemic and circumstantial modality must lie at the heart of each satisfactory theory of modality, a fact that had previously been overlooked. In earlier theories different sub-kinds of circumstantial modal bases, and the epistemic modal base, which is situated one level up, were treated on a par as different kinds of ‘accessibility relations’. What matters here is that circumstantial modal bases often have an ad-hoc flavour to them, or a sense of being accidental. Take, for instance, the following sentence: Given that his teacher is so strict, Joey must do his homework even if he’s sick. In this sentence, the necessity that Joey must do his homework is dependent on the accidental fact of his teacher’s being so strict. If the teacher were not as strict, the necessity would not

The modal force in (9) is necessity: The sentence is about something the addressee must, or ought to, do. The modal base is circumstantial. The necessity does not follow from any conclusions arrived at by pure reasoning, but by the co-evaluation of facts of the real world. The modal ordering source is the degree to which an action is good for the addressee, and this ordering source ranks different possible worlds: Given the addressee’s tuberculosis, possible worlds close to the perfect worlds in terms of what is good for the addressee, will have the addressee go to Davos, slightly more distant possible worlds will, e.g., have the patient go to the mountainous parts of Bavaria, and worlds quite distant or dissimilar from the perfect worlds in terms of what is good for the patient, will have the addressee go to Amsterdam. In other words: The ordering source and the modal base restrict the possible worlds in which the state of affairs in the scope of the necessity or possibility operator holds.

Phrases like given what is good for you in your state of health act like

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5 I will only allude to Kratzer’s implementation in terms of possible worlds in the following. The general idea of a possible-worlds account of modality has it that the (linguistic) context of a modal quantifier specifies the type of possible worlds in which the embedded state of affairs holds as often as is defined by the quantifier. More on this will be said immediately below when the modal base and the ordering source are introduced.
restrictors over possible worlds. To arrive at the relevant possible world(s), we use the implicit or contextual restrictors, and the explicit restrictor given what is good for you in your state of health such that we arrive at the set of worlds in which only things are the case that are good for people with lung diseases. All of these worlds will have the patient go to Davos, and necessity in our case is nothing but this very universal quantification over possible worlds. The proposition embedded under the modal constitutes the third component of the quantificational structure, i.e. the nuclear scope. A way to think of tripartite modal structures in terms of functions is to say that the modal base and ordering source define the domain of the quantifier function, while the truth or falsity of the nuclear scope wrt. to the domain constitutes the value of the quantifier function. (10a) provides a partitioning of a different modal tripartite structure, and (10b) is a paraphrase making use of the above reasonings.

(10) a. [For you to be able to apply for a permission]_RESTRICTOR [it is necessary]_QUANTIFIER that [you go to the office]_NUCLEAR SCOPE.
b. [All]_QUANTIFIER the possible worlds which are [such that you can apply for a permission]_RESTRICTOR, are [such that you go to the office]_NUCLEAR SCOPE.

Now we have all that we need to understand our Mandarin construction. Note that the quantificational components of (10a) can be mapped nearly one to one onto the ones in (11) (=1/(8)).

(11) [Tā bìxŭ liú dăshīguăn]_NUCLEAR SCOPE + QUANTIFIER,
(s)he must go embassy
cāi [nèng shēnqìng qiánzhêng]_RESTRICTOR,
Cāi can apply for visa
'(S)he must go to the embassy to be able to apply for a visa.'
'Only if (s)he goes to the embassy can she apply for a visa.'

A modified paraphrase which makes use of our new insights is presented in (11').

(11') [All]_QUANTIFIER the possible worlds which are [such that (s)he can apply for a visa]_RESTRICTOR are [such that (s)he goes to the embassy]_NUCLEAR SCOPE.

The only unusual thing about Mandarin now is that Mandarin allows for restrictors that are main clauses. But, as Partee (1995: section 3.3) has pointed out, tripartite structures bring along no inherent binary branching. If, in a language like Mandarin, the restrictor may be higher in the modal structure than the combination of quantifier and nuclear scope.
trivial alternatives to the nuclear scopes might lead to the same result, but some do not. Zài in (14) may be used because, in a way similar to the cāi/jiū-cases, no other eventuality in the nuclear scope may hold. Additionally, the temporal setting of the eventuality expressed in the first clause must be temporally prior to the eventuality expressed in the second clause, and the number of alternatives must be restricted to one (in the context from which (14) is taken, the single relevant alternative is to sign up immediately). The only thing that remains unsatisfactory in the paraphrases of the examples in (13) is the fact that, in order to be able to use only as required by the make-up of zhī-yào, a modal of necessity must be used in the paraphrase of the nuclear scope, even though this ought to be covered by the universal quantifier already. However, this does not constitute an inconsistency in the proposed analysis, it is just a distant reflex of the fact that English simply does not allow for a constituent comprising the quantifier plus the nuclear scope which then combines with the restrictor, and this still holds true of the quasi-logical paraphrases given. This being so, the Mandarin nuclear scopes in (13), but not the English ones, end up in the syntactic and in the semantic scope of zhī-'only'- if zhī attaches to the quantifier.

Note, finally, that this analysis will not just solve the zhī-yào-problem that has repeatedly kept us busy in this study (cf., for instance, section 3.2.1). It solves the recurrent problem of quantifiers or modals in subordinate clauses that have matrix scope. Among the other items that belong to this class are yào 'must', bǐxū 'must' and chúfēi 'only if; must' (cf. Eifring 1995: ch. VI.2).

5.2 MODALIZING USES OF PARAMETRIC CĀI AND JIū

A sub-class of contexts in which parametric cāi and jiū occur has developed a conventionalized modal meaning. These contexts will be the topic of the present section, and I will argue that Mandarin has a conventionalized system of expressing the modal ordering source or accessibility relation as defined by Kratzer (1981, 1991a).

The examples in (15) illustrate the phenomenon.

(15) a. Nǐ zhīdào jiū hǎo le! (rp: 17)
   you know jiū good PRT
   'I'm glad you know it!' / 'I wish you knew it!' / 'I wish you'd known it!'

b. Tā yǐngdāng lái kàn wǒ cāi dàil (cf. Alleton 1972: 138)
   (s)he should come see I cāi right
   '(s)he should really come and see me!'

Take (15a) first. If we translate this sentence as a conditional – recall that conditionals are usually a good translational option in the absence of more specific markers in complex jiū-sentences – we would get If you know it, it is fine. This is not outright false, but it misses an important point: What the use of hào [literally: 'good'] contributes in (15a) is not as non-specific as the literal meaning of hào suggests. The more adequate translations of the sentence all say something about the speaker’s desires or hopes (that have actually come true in the first translation). Likewise, (15b) does not mean ‘Only if (s)he comes and sees me is it correct.’ Instead, the sentence has a component of meaning which says that the only kind of proper behavior that the speaker can think of in the situation at hand would be for the person talked about to visit him or her. We thus have an interpretational surplus in these sentences, and we cannot derive it from what we know about the meanings of the involved expressions and their interaction alone.

The discussion to follow will proceed in three major steps. I will first propose some diagnostics to delimit from the usual parametric cases the sub-class of parametric cāi/jiū-uses that are of interest here (section 5.2.1). I will then turn to Kratzer’s theory of modality, I will identify the general theoretical component that matters in the case at hand, and I will move on to propose more specific meanings for the different conventionalized predicates that may follow cāi and jiū in the modalizing use (section 5.2.2). As a last step, I will again try to integrate this special use into the general picture of what we know about parametric uses of cāi and jiū, and I will give a schematic overview of the different components of meaning present in sentences with modalizing uses of cāi and jiū (section 5.2.3).

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6 Alleton briefly discusses this use (Alleton 1972: 138, 151), but she makes no attempt at an analysis.
5.2.1 Diagnostics of the modal use type

I can think of four properties that are indicative of the modal use within the parametric use. The first one has already been mentioned: The overall meaning of sentences as in (15) does not follow from what we know about its components; specifically, the predicates following cāi and jīu seem to encode certain conventionalized meanings different from their literal meanings.

The second property of modalizing cāi/jīu-sentences is the fact that the predicates following cāi or jīu are never negated and that, in general, nothing may intervene between cāi/jīu and the following predicate. This is illustrated in (16). (17) allows us to see that normal parametric uses of cāi or jīu are not subject to any such restrictions.

(16) a. Nímen yīnggāi jiǎo wǒ ‘āyi’ cāi (*bù/*hén) dì! you should call I aunt cāi not/very correct ‘You should really call me “Aunt”!’
   ‘Be good kids and call me “Aunt”!’ (rp: 2)
   b. Yīhòu na, wǒ zǎo yǐ-diǎn hui-lái afterwards PRT I early 1-CL:bit return-come jīu (*bù) shí le! not right PRT ‘I’ll simply come home a bit earlier in the future.’ (rp: 17)

(17) a. Chúfēi tā qù, wǒ cāi (bù/gēn dìdì yǐqī) qù, only if (s)he go I cāi not/with younger brother together go ‘Only if (s)he goes will I (not) go (with my younger brother).
   b. Tā qù, wǒ jīu bù qù (s)he go I Jīu not go ‘If (s)he goes, I won’t go.’

A third characteristic of modalizing uses is that no subject may intervene between the first clause and cāi or jīu. This is shown in (18). The sentence in (19) just serves to demonstrate the perfect acceptability of such structures in other parametric cases.

(18) Nǐ děi xiǎoxīn yǐ-diǎn (*wǒ) cāi hǎo a! you must careful 1-CL:bit I cāi good PRT ‘You must be more careful!’
(19) Nǐ děi xiǎoxīn yǐ-diǎn, wǒ cāi huì ràng nǐ qù you must careful 1-CL:bit I cāi will let you go ‘Only if you are more careful will I let you go.’

One may want to claim that this behaviour is due to the fact that the first clause itself is the subject in modalizing cāi/jīu-sentences. Such an analysis might be viable for purely syntactic reasons; but even if it were true, the obligatory-subject status of the first clause would still be a constant property of the relevant sentences.

The last property has to do with the predicates that may occur behind cāi or jīu in modalizing sentences. (20) is an exhaustive list of the predicates following cāi/jīu with which the interpretational surplus stated above may be observed. The translations given render only the meanings these items usually have in non-modalizing sentences.

(20) Predicates following cāi/jīu in modalizing sentences, and their literal meanings:

<table>
<thead>
<tr>
<th>Predicates</th>
<th>Meanings</th>
</tr>
</thead>
<tbody>
<tr>
<td>shì</td>
<td>‘be right’</td>
</tr>
<tr>
<td>hǎo</td>
<td>‘be good’</td>
</tr>
<tr>
<td>xìng</td>
<td>‘be okay’</td>
</tr>
<tr>
<td>kěyǐ</td>
<td>‘be possible/allowed’</td>
</tr>
<tr>
<td>dí</td>
<td>‘be correct’</td>
</tr>
</tbody>
</table>

If we combine the last three properties we arrive at the following maximum structure of modalizing cāi/jīu-sentences:

(21) clause + {cāi/jīu} + {shì hǎo xìng kěyǐ} + PRT

Since nothing may intervene in those positions where the concatenation symbols are used in (21), we get a limited set of ten different modalizing sentence endings. This fact, combined with the observation that the right periphery of Mandarin sentences has always been a position for the conventionalization of modal categories in Mandarin, is probably a good explanation of the fact why modalizing uses are perceived as special.

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9 It can hardly be a coincidence that the same five predicates are also the ones that are used in Mandarin tag-question formation. I have, however, not been able to match the individual tag-question functions of the elements with their meaning contribution in modalizing sentences. In tag questions, the different predicates relate to different kinds of speech-acts. For instance, ..., shì bu shì? and ..., dí bu dí? ask for a confirmation of the truth value of the preceding clause, while ..., hǎo bu hǎo? asks for agreement concerning a future action or a directive speech-act. The functions of the predicates in modalizing sentences are clearly different. This issue requires more research.

10 Cf. Bisang (1992) and the suggestively similar, though probably not synchronically relevant, internal structure of sentence-final duì “only, that’s all”, which is made up of a conjunctural element plus a verb with the meaning ‘end’. 
claim that the modalizing sentential endings discussed here are actually on their way out of the class of normal cāl/jīu-predicates, and that the degree to which this process has already advanced can be read off the (non-)clausal status being assigned to the sentential endings. To put it in the form of a disjunction: Does the structure in (21) depict a simple, or a complex sentence? By saying that the modalizing use is a sub-case of the parametric use, I have already decided in favour of the complex-sentence analysis, but I have partially done so for expository reasons. I will not make a final decision here. I will just note that a reanalysis is likely to be under way in this area.

5.2.2 The predicates following cāi and jiū as markers of the modal ordering source

So far I have said very little about the actual meanings that are expressed by the sentential endings (or the embedding structures) in (21). To be able to understand the proposal, it is necessary to be familiar with the notion of ordering sources and accessibility relations as introduced in section 5.1.3. Ordering sources are those components of modal meaning that specify the system within which something is a necessity or a possibility. A moral ordering source defines worlds that are closer to or further away from the possible worlds that are completely in accord with moral standards. A legal ordering source defines a cline of worlds in which the perfect worlds are only made up of eventualities that are legal. Other ordering sources are defined by what is good for people’s health, what is pleasant, and by many less general circumstantial ordering principles.

My proposal for the meaning contribution of the predicates in (20) in modalizing sentences is that they are conventionalized expressions specifying a particular ordering source. Stated differently, these words tell us with respect to what system something is a necessity or a possibility.

Consider the sentences in (15) again, repeated here as (22).

(22)  
- a. Nǐ zhīdào jiū hǎo le! (rp: 17)  
you know JIÚ good PRT  
'I’m glad you know it!'/‘I wish you knew it!’/  
'I wish you had known it!’

she should come see I CAI right  
‘(S)he should really come and see me!’

No matter which translation we choose for (15a), each version states that the truth of nǐ zhīdào ‘you know (it)’ is, or would be in accordance with what the speaker hopes or desires. Hǎo in modalizing sentences may thus be classified as an optative marker. Some sentences with jiū/cāi, hǎo-endings have overt verbs expressing hope or desire at, or close to the left edge; cf. (23).

(23)  
Xiàng měi yǒu shí cǎi hǎo. (rp: 47)  
hope not exist trouble CAI OPTATIVE  
‘I really hope there will be no trouble.’

The same sentence with shí ‘right’ would not be felicitous:

(23’) #Xiàng měi yǒu shí cǎi shí.  
hope not exist trouble CAI right  
intended: ‘I really hope there will be no trouble.’

Shí as in (23’) or (24) indicates a purposive ordering source:

(24)  
a. Zōuguō jīu shí le! (rp: 02)  
walk over JIÚ PURPOSIVE PRT  
‘We can just walk over [to get there].’

b. [In today’s society, everybody only looks after himself. That is not okay...]  
Xīyào tōngxuémen tuānjié-qīlái cǎi shí.  
it.is.necessary fellow.students unite-start.to CAI PURPOSIVE  
The fellow students must start to unite [in order for us to achieve our goal of a less egoistic society].’ (cf. hx: 77)

Walking over as in (24a) is mentioned as a possible means to the end of getting to the salient place, and the organization of students as in (24b) is not required by any law, but for the purpose of creating a better society.

(25) specifies for each of the five expressions under discussion which kind of ordering source I assume to be encoded.

(25) Items following cāil/jīu in modalizing sentences, and the modal ordering sources relating to them

| Shí | purposive: | ‘What is necessary or possible in view of what we aim at?’ |
| Hǎo | optative: | ‘What is necessary or possible in view of what we desire/hope/are happy about?11 |
| Dui | deontic: | ‘What is necessary or possible in view of rules of social interaction?’ |
| Xíng/ | implementa- | ‘What is necessary or possible in view of carrying out an action?’ |
| Kěyì | tional: |

11 Kratzer’s term for this ordering source is ‘boulétic’.
The purposive marker *shi* and the optative marker *kāo* have already been discussed. *Dui* as a deontic marker has been illustrated in (15b) and (16a). Here are more examples.

(26) a. *Yīnggāi xièxiè nǐ cāi dui!*
    should thank you CAI DEONTIC
    ‘I should thank you!’

b. *Nǐ juān qiān jiù dui le!*
    you donate money JIU DEONTIC PRT
    ‘The fact/possibility of your donating money is fine [from a
    moral perspective]!’

(26a) would be appropriate in a situation in which the speaker suddenly feels an obligation to thank the addressee, perhaps because he has suddenly become aware of what the addressee has done for him. (26b) is fine in a context in which the person talked to is thinking about what to do with some money that she does not need. She proposes to donate it, and the speaker utters (26b) because this would be a morally good way of acting.

*Xīng* and *kèyǐ* are those items in modalizing sentences that I find most difficult to characterize in terms of a modal ordering source. While I am quite sure about my proposals for the other particles, the matching of *xīng* and *kèyǐ* with an implementational ordering source is likely to be subject to a more exact restatement in the future. By an implementational ordering source, I mean necessities or probabilities arising from the projected carrying out of an action. If, for instance, you want to buy something and you try to get a discount, the vendor may say (27).

(27) *Wūshí-kuāi jiù kèyǐ/xīng le!*
    50-CL:MU JIU IMPLEMENTATIONAL PRT
    ‘[Pay] 50 Kuai[, and it’s yours]!’

The act of buying can be implemented by paying 50 Kuai; this seems to be the meaning contribution of the modalizing ending in (27). Admittedly, the implementational ordering source is close to what I have characterized as ‘purposive’ above (cf. the discussion on *shi*), but I think a distinction can be drawn between the two. The purposive ordering source always has something to do with volition and intentions, while the implementational ordering source refers to stereotypical implementational schemata. This impression is underpinned by the fact that modalizing *xīng/kèyǐ*-sentences are frequent in trading interactions (cf. the preceding and the following examples).

(28) a. *Māi yī-ge èrshī-qiān, māi sān-ge suān*
    buy 1-CL 20-CL:MU money buy 3-CL amount
    wūshī-kuāi qiān jiù xīng le.
    50-CL:MU money JIU IMPLEMENTATIONAL PRT
    ‘If you buy one it’s 20 Kuai, if you buy three [the action can be
    carried out for/l] it amounts to 50 Kuai.’ (ad. rp: 22)

b. *Nǐ yòng xiānqian māi cāi kèyǐ ya!*
    you use cash money buy CAI IMPLEMENTATIONAL PRT
    ‘You must pay cash to buy it!’

A last example showing that modalizing *xīng/kèyǐ* is not restricted to trading contexts is given in (29).

(29) *Lèi shuō-yī-shuō jiù xīng le.*
    briefly talk a bit JIU IMPLEMENTATIONAL PRT
    ‘Let’s briefly talk it over[, and it’ll be done].’ (Alleton 1972: 198)

5.2.3 The function of *cāi* and *jiù* in the modalizing use

There remains the task of accounting for the difference between modalizing sentences with *cāi* and those with *jiù*. The case of *cāi* is easy to understand. Most modalizing sentences with *cāi* have overt necessity operators (cf. (15b), (16a), (18), (24b) or (26a)). In a possible-worlds account these sentences are true in all those worlds that are close to the ideal worlds in terms of the respective ordering source. In (26a), e.g., we have a deontic ordering source. I repeat this sentence in (30), and this time I indicate two different possible focus-background partitions.

(30) a. *Yīnggāi xièxiè nǐ cāi dui!*
    should thank you CAI DEONTIC
    ‘I should THANK you!’

b. *Yīnggāi xièxiè nǐ cāi dui!*
    should thank you CAI DEONTIC
    ‘I should thank YOU!’

Quite in accordance with what we know about the use of *cāi*, the deontic sentences in (30) may be paraphrased as in (30').

(30') a. ‘All the possible worlds that are close to the morally perfect worlds are worlds in which I thank you, and that what I do to you in these worlds is thanking has no alternative.’

b. ‘All the possible worlds that are close to the morally perfect worlds are worlds in which I thank you, and that who I thank in these worlds is you has no alternative.’
The first halves of the paraphrases are identical, and they relate to that portion of meaning that counts in terms of truth-conditions. The second halves do not go beyond these truth-conditions, because the first halves already say that for a possible world to be morally perfect it is necessary that the speaker thanks the addressee in that world, and this entails that the act of thanking may not be replaced by any other kind of behaviour and that the person thanked may not change. What the second halves do is adjust the first halves to different kinds of contexts: (30'a) would be good in a context in which the speaker suddenly notices that, instead of being angry at the addressee, he should be grateful. (30'b) is felicitous if the speaker suddenly becomes aware of the fact that the moral obligation to thank someone exists with regard to the addressee, and not with regard to somebody else.

We should remember at this point that the same contextual fine-tuning is possible if cài dù is not used; alternatives are related to by the foci, and not by cài. But if cài were not used, the ordering source could not be expressed. I thus claim that cài in modalizing sentences is used to provide a syntactic slot for the marker of the modal ordering source. As in the usual parametric uses, cài does not induce a specific interpretation, it only reflects it. That nothing but thanking will do in (30a), and that nothing but directing the thanks to the addressee will do in (30b), is already encoded by the use of yōnggāi ‘should’. Paraphrases of more old modalizing cài-examples may be studied in (31).

(31) a. Nǐ déi xiǎoxīn yì-diànr cài hǎo a!
you must careful 1-CL:bit CAI good PRT
‘All the possible worlds that are close to the perfect worlds in terms of my desires are worlds in which you are a bit more careful, and that what you do is being more careful in those worlds has no alternative.

b. [In today’s society, everybody only looks after himself. That is not okay...]
Xùyào tōngxuémen tuánjí-gilài cài shí.
it.is.necessary fellow.students unite-start to CAI PURPOSE
‘It is necessary for our common aims are worlds in which the fellow students start to unite, and that what the students do in those worlds is starting to unite has no alternative.’

c. Nǐ yōng xiǎngqiān mǎi cài kěyǐ ya!
you use cash-money buy CAI IMPLEMENTATIONAL PRT
‘All the possible worlds that are close to the perfect worlds in terms of the smooth implementation of (stereotypical) actions are worlds in which you pay [for this item] with cash money, and that what you pay with to buy the item is cash money has no alternative.’

(31c) is an example in which no modal verb is used preceding cài. I still claim that cài only reflects the fact that the sentence is meant as denoting a(n implementational) necessity. The sentence meaning would not change if the modal yōng ‘must’ were used before yōng in (31c). Just as the English sentence You pay with your credit card may be used to express a necessity, (31c) without the cài-kēyǐ-ending can be interpreted that way. Let us contrast this with the parallel jiù-sentence in (32).

(32) Nǐ yōng xiǎngqiān mǎi jiù kēyǐ le.
you use cash-money buy CAI IMPLEMENTATIONAL PRT.
‘You can pay cash to buy it.’

I offer (32’) as a more complete paraphrase of the meaning of (32).

(32’) ‘Some possible worlds that are close to the perfect worlds in terms of the smooth implementation of (stereotypical) actions are worlds in which you pay [for this item] with cash money, and that what you pay with in those worlds to buy the item it cash money may have an alternative[ say, a traveller’s cheque] that is also good for paying, but there is at least one alternative way of paying[ say, paying with credit cards] that is not used in any of the worlds close to the perfect worlds in terms of a smooth implementation.’

I thus claim that the predication preceding jiù in (32) is implicitly modalized by an operator of possibility, and jiù is used because the focus is used with the intention to signal that not all alternatives are fine, namely that at least one mode of effecting the payment is excluded. Since possibilities have less specific truth-conditions than necessities, we seldom find overt modal operators in modalizing jiù-sentences. They may, however, sometimes be used, and an attested example is presented in (33).

(33) Néng bā Lào Li tānmen-de shìshìghù dālāo-shàng-lái can BA Old Li they-ATTR corpse salvage-up-come jiù hǎo le. (hx: 345)
JIU OPTATIVE PRT
‘We can hopefully salvage the CORPSES of Old Li and his crowd.’
‘Some of the possible worlds that are close to the perfect worlds in terms of our desires are worlds in which we salvage the corpses of
Old Li and his crowd, and that what we salvage is their corpses in those worlds may have an alternative [we might even salvage their belongings together with their corpses], but there is at least one alternative to salvaging the corpses, say, salvaging only their clothes] that is not true in any of the worlds close to the perfect worlds in terms of our desires.

The paraphrase given in (33) is intolerably long, so I will restate the interpretational components of this sentence as in (34).  

(34) a. **POSSIBLE** *(We salvage the corpses of Old Li and his crowd)*  
b. Ordering source: OPTATIVE  
c. *α*-FACTUALITY *(We can salvage the corpses of Old Li and his crowd)*  
d. λx *[we can salvage x of Old Li and his crowd], the corpses*  
e. ¬∀y, y≠x & y∈ALT, we can salvage y of Old Li and his crowd  

(34a) says that (33) is modalized by a marker of possibility. (34b) identifies the optative ordering source of the possibility. (34c) depicts the fact that (33) is not restricted to any specific mode of factuality (cf. the different translations in footnote 12). Strictly speaking, this does not have anything to do with the modal use, but since the translations vary heavily with the respective specifications of factuality, I have included (34c) in the list. (34d) represents a natural focus-background partition, and (34e) encodes the interpretational details restricting the focus interpretations of (33): Not all alternatives are possible.

Before concluding this section by stating the more general versions of (34) for modalizing cāi-sentences and for modalizing jiū-sentences, readers may test the viability of my account with the jiū-examples in (35) ((35a)=(16b)).

(35) a. *[Yulin's parents are worried about her coming home late in the evening, Yulin proposes:]*  

Yìlùn na, wǒ zǎo yì-diān huì-lái jiū shì.  
afte-rwards PRT I early 1-C:bit return-come JIŪPURPOSIVE  
*'[In order for you not to be concerned anymore, I can come home a bit earlier in the future.]*  
b. *Ni jùān qiān jiū dì lè! you donate money JIŪDEONTIC PRT*  

The fact/possibility of your donating money is fine [from a moral perspective]!  

The general versions of the different components that are relevant to the interpretation of modalizing cāi-sentences and modalizing jiū-sentences are given in (36) and (37). These two schemata conclude the present section.

(36) Schema of modalizing cāi-sentences:  

'*(MODp+ ) p + cāi + MARKER OF THE ORDERING SOURCE’*  

a. MODp  
b. OPTATIVE/DEONTIC/PURPOSIVE/IMPLEMENTATIONAL ordering source of MOD  
c. *α*-FACTUALITY  
d. λx *[Background of MODp p], Focus of MODp p  

e. ¬∀y, y≠Focus value & y∈ALT, Background(y)  

(37) Schema of modalizing jiū-sentences:  

'*(MODp+ ) p + jiū + MARKER OF THE ORDERING SOURCE’*  

a. MODp  
b. OPTATIVE/DEONTIC/PURPOSIVE/IMPLEMENTATIONAL ordering source of MOD  
c. *α*-FACTUALITY  
d. λx *[Background of MODp p], Focus of MODp p  

e. ¬∀y, y≠Focus & y∈ALT, Background(y)  

5.3 **THREE PEOPLE AND A PIANO**

In this section I want to investigate the Mandarin version of a problem in focus semantics that has been puzzling researchers for quite a while (cf., for instance, Jacobs 1983: 224–31 or König 1991a: 51, 101ff). The treatment of this problem does not just give us an opportunity to see how parametric cāi and jiū are used in Mandarin to tell apart readings of sentences that are ambiguous in English. This section will also give us a lesson concerning translational equivalence. The result will be that translational equivalence is not to be confused with identity of logical form. This finding may not be entirely new, but the empirical part of this section illustrates it in an impressive way. Before turning to the Mandarin data, the English case is discussed.

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Note that, even if this sentence is uttered in a context in which the addressee has actually donated money, it is still possible to say that it is implicitly modalized. All actual facts are trivially possible facts.
One version of the problem is about three people and a piano:

(38) Only THREE people can move the piano.

(38) has several readings. For the first reading, imagine you want to move your piano to a different room, and only one friend is there to help you. Since pianos are heavy your friend may say: ‘Sorry, I think we can’t do it alone. Only three people can move the piano.’ Let us call this the heavy-piano reading. In this situation the speaker excludes the possibility that the number of people present, namely two, is enough to move the piano. Four or five people would, under most circumstances, also be a possibility, but these alternatives are probably not relevant in this setting.

On the second reading, a professional piano transporter deals with a client who enquires about the number of people needed to move a piano. The client thinks that one needs at least five people, but the professional reassures him: ‘Only three people can move the piano’. I will call this the light-piano reading. Under the circumstances of the light-piano reading, it is excluded that more people are needed, and it is implicated, but not entailed or presupposed, that two people would not be enough.

Everything is fine with the heavy-piano reading, and our descriptive generalization concerning čai-foci from ch. 4, which should also be true of only-foci in general, covers what is entailed to be wrong (‘Two people can move the piano’, ‘One person can move the piano’). The setting with the light-piano reading is trickier. Above we said that, in this context, (38) entails ‘No more than three people are needed to move the piano’. (38) does entail this, but this entailment cannot be due to the use of only, because (38) without only likewise entails ‘No more than three people are needed to move the piano’; cf. (39).

(39) Three people can move the piano.

To see more clearly what is really excluded by the use of only in the light-piano reading of (38), consider the following paraphrase.

(38’) If there are only three people present, they can move the piano.

Inasmuch as this paraphrase reflects the relevant meaning portions of the light-piano reading, it shows two things: (i) only in the light-piano reading does not have sentential scope because in the paraphrase (38’) its scope is clearly confined to the if-clause, and (ii) since entailments are lost in protases, the only-entailment which the protasis of (38’) would have as an independent sentence (‘There are only three people’ entails ‘There are no more than three people’) does not hold for the whole conditional. Although the only-entailment is not truth-conditionally active with respect to the whole sentence, some non-trivial alternative proposition (‘There are four people’, ‘There are five people’) must be contextually given. In our setting the client’s wrong assumption introduces this proposition into the common ground, and although the calculation of alternatives takes place on a "sub-truth-conditional" level, the evaluational implicature going along with this calculation is surely felt to be present in the light-piano reading of (38): Three people are less than expected. The fact that the entailment, but not the evaluational component, is hidden in the light-piano reading, is taken by Jacobs as an argument in favour of his claim that both the quantificational component of meaning, and the evaluational component form part of the lexical meaning of only-words, and that either may be lost in special contexts. I have taken a different position here which derives the “neutralization” of the quantificational entailment from its truth-conditional inactivity, while the evaluational implicature is still triggered by the context. What I cannot discuss here is what syntactic consequences arise from the postulated propositional interpretation of the subject of (38) in the light-piano reading.

(38) has at least one more reading. This reading surfaces when we think of a delicate piano which must be handled with greatest care. Only three people have received the right training, and only these people can move the piano. Let us call this the delicate-piano reading. In this reading the subject is interpreted existentially (‘There are only three people who can do the job, namely Bob, Joe and Ben’), and only has wide scope.

In Chinese each reading must be expressed in a univocal way.

(40) a. The heavy-piano setting:

Zhi-yao SAN-ge ren cai handedong zhe-jiu gangerin.
3-CL person CAI can.move this-CL piano
‘Only (as many as) THREE people can move this piano.’

b. The light-piano setting:

Jiu/CAI cai handedong zhe-jiu gangerin le.
3-CL person CAI can.move this-CL piano
‘Only (as few as) THREE people are needed to be able to move this piano.’

c. The delicate-piano setting:

Zhi yuo SAN-ge ren
only exist 3-CL people
Each of the Chinese sentences in (40) is limited to one setting, and the interesting question from the point of view of our investigation is whether we can account for the occurrences of parametric *cai* and *jiù* in each case. At the same time, the recurrent topic of this chapter, alleged dilemmas of semantic scope and syntax, will be relevant to our discussion.

Consider (40a) first. The number word is in focus, and *cai* reflects the fact that the focus is intended as a focus excluding all non-trivial alternatives. The trivial alternatives are sentences with more than three people lifting the piano: If three people can do the job, four or five people would do no harm, either. Thus, only sentences with numbers lower than three are relevant, and all of them are excluded. No problems arise with this sentence, except for the fact that I have not been able to find a focus-marking device that could be used in front of the focus to ensure the correct reading other than contextual information (recall that *cai* as a parametric word only reflects a type of focus quantification).

Let us skip (40b) for the moment and move straight on to the delicate piano setting in (40c). In this sentence *cai* is ungrammatical even though all the excluded alternatives are non-trivial alternatives. The reason for the deviance of (40c) with *cai* must thus lie elsewhere. I assume it lies in the syntax of the sentence. As reflected by the parenthesized translation option, the Chinese sentence is really an existential sentence in which the predication starting with *kèyī* 'can' is functionally similar to a relative clause, much as in the English translation which makes use of a relative marking device that could be used in front of the focus to ensure the correct reading other than contextual information (recall that *cai* as a parametric word only reflects a type of focus quantification).

The Mandarin sentence for the light-piano setting ((40c), repeated here as (41)) is clearly trickiest.

(41) *Zhī-yà o SÀN-ge rén
only-need 3-CL people
jiù/*cai bândéng zhè-jí à gāngqìn le.
JIU/CAI can.move this-CL piano PRT

'(As few as) THREE people are needed to be able to move this piano.'

But (41) constitutes a problem only as long as we disregard the results of section 5.1.3. Recall that, in that section, a solution to the *zhīyào*-problem has been proposed. At a first glance, it looks like semantic scope and syntactic facts are in conflict in (41): The modal in *zhīyào* has matrix scope, but the clause in which it occurs is subordinate. The solution I have proposed for this problem may be summarized as follows: Sentences like (41) are neither conditional sentences, nor purposive constructions. They are really complex sentences straightforwardly instantiating the tripartite quantificational structure of modalized propositions. The modal is the quantifier, the subordinate clause without the conjunction/focus marker and the modal constitutes the nuclear scope, and the main clause instantiates the circumstantial modal base, i.e. the accessibility relation. See section 5.1.3 for the details. If, furthermore, we incorporate the insight arrived at on p. 258, we get the following paraphrase for (41): 'All the possible worlds which are such that this piano can be moved are such that only three people are needed.'

Let us now turn to the matter of why *jiù* is used in (41). First let us think about what we would predict the meaning of (40b) to be if *zhīyào* were not used. This case is illustrated in (41).

(41') SÀN-ge rén jiù bândéng zhè-jí à gāngqìn le.
3-CL people JIU can.move this-CL piano PRT

'(As few as) THREE people are able to move this piano.'

In cases in which *zhīyào* is used as a focus marker, *zhī* may not be dropped without influencing grammaticality; cf. (i) and (ii).

(i) Tá *zhī*yǎ o zhī*zhòng shǎ cài mài-guó. (s)he only this-CL kind book CAI buy-ASP

'(s)he's only bought THIS kind of book before.'

(ii) *Zhī*yǎ o tā lāi, wǒ cài qù.
only if (s)he come I CAI go

'Only if (s)he comes will I go.'
This sentence has at least the following components of meaning:
(i) It asserts that three people can move the piano;
(ii) it implies that four or five people would also be sufficient;
(iii) the fact that jǐù is used reflects the fact that some relevant alternative sentence is presupposed not to be true.

The last point is what matters here. If no relevant alternative sentence with numbers lower than ‘three’ is true, the focus interpretation stated in (iii) is still true. This is what makes (41') apt to be used in the light-piano setting. But with a different context it is easy to see that (41') is less restricted than (41). Think of a context again in which you want to hire professionals to move your piano to another room. The company allows you to book either a single person, or three persons, but for some reason booking two people is impossible. You may ask: ‘How many people will be enough?’, and the professional uses (41') to answer your question. His answer leaves open the possibility that actually two people would already be enough to move your piano, but since a single person is not sufficient, and two people cannot be booked, he only gives you the option involving three people. Using (41') is not a lie, because jǐù leaves it open whether two people would not be an option, too. I claim that (41) would amount to a deception if uttered in our context. Let us see how this comes about.

First, consider what the necessity operator of zhǐyào adds to the meaning of the sentence. *Three people are needed*, that is the paraphrase of the assertion of (41) including the necessity operator: No less than three people will do. This does go together with the focus interpretation reflected by jǐù, because the extreme case of negated universal quantification over the domain of alternatives is negated existential quantification. It does not fully go together with our new context, though: The necessity operator at least implicates that three people moving the piano are the borderline case. To say that one needs three people strongly disfavours the possibility that one would actually only need two. Therefore, (41) amounts to a deception, if not a lie, in our context. The only-component of zhǐyào adds the (redundant) information that no more than three people are needed, and since this is redundant, the evaluational implicature, namely that three people are not much, has the field to itself.

The discussion of (40b)/(41) has shown the following. First, the semantics proposed for jǐù-sentences can handle such complicated cases. Second, if we compare the accent given for (40b) and for its English counterpart at the beginning of this section, we must state that the match between the two sentences is highly indirect. I have proposed above that (42a) in its light-piano reading is interpreted like (42b).

(42) a. *Only three people can move the piano.*
   b. *If there are only three people they can move the piano.*

As we know, the English paraphrase of the Mandarin version is more like (43).

(43) *All the possible worlds which are such that this piano can be moved are such that only three people are needed.*

Paraphrased in terms of the semantics for conditionals that I have assumed throughout this study (cf. sections 4.1.5 and 4.2.3), (42b) comes out as (42'b).

(42') b. *The English light-piano setting:*
   
   \[ [[\text{All}] \text{quantifier}} \text{the situations which are [such that there are only three people]}_{\text{ners}} \text{are [such that the piano can be moved]}_{\text{ers}}. \]  

(i.e. ‘\( \forall \ldots [\text{only}] \ldots \text{restrictor} \cdot [\text{poss} \ldots \text{nukeal scope}] \)’)

A paraphrase of (43) to cover the Mandarin sentence which is more explicit in terms of the constituent parts of the quantificational structure can be found in (43'). (Note, for the last time, the quantificational peculiarity described on p. 258, which results from the Mandarin facts of modal constituency.)

(43') *The Mandarin light-piano setting:*

\[ [[\text{All}] \text{quantifier}} \text{the possible worlds which are [such that this piano can be moved]}_{\text{ers}} \text{are [such that only three people are needed]}_{\text{ers}}. \]  

(i.e. ‘\( \forall \ldots [\text{poss} \ldots \text{restrictor only} \ldots \text{Nerc} \ldots \text{nukeal scope}] \)’)

I will not try to show exactly how the translational equivalence can be derived. My purpose here has been to illustrate that translational equivalence does not mean that the source sentence and the target sentence have the same logical form.

The present section as a whole has demonstrated that ambiguities of the piano-moving kind, which consistently arise in English and other European languages, do not exist in Mandarin, because the system of focus-background agreement encoded by parametric words, and certain structural peculiarities of Mandarin existential sentences or zhǐyào-sentences conspire to yield univocal sentences.
5.4 TWO PARAMETRIC WORDS IN A SINGLE CLAUSE

All of the examples discussed so far have been sentences with configurations triggering the use of a single parametric word. In this section I want to widen the perspective. I will discuss on what conditions the use of two parametric words is in principle possible in a single clause, I will test all combinatorial possibilities, and I will draw some preliminary conclusions.

Recall from ch. 3 that parametric words are situated at the left edge of the verbal complex, probably immediately above modal or aspectual functional phrases. Extending proposals that have been made for single parametric words, we may say that the more recent syntactic tradition analyzes parametric cāi, jīu, dōu and yě as functional heads (cf. the discussions in sections 3.1.2.A and 3.4.1, and the references cited there). It should therefore come as a surprise if a single verbal complex included two occurrences of functional categories that one would assume to compete for a single syntactic position. Precisely this is, contrary to expectation, possible in Mandarin, even if, admittedly, such structures are disfavoured. An example of such a configuration is given in (44).

(44) Zhǐyǒu tīlǎnqǐ hǎo, wǒmen cái lián bīngqīlín
only-if weather good we CAI even ice-cream
yě hui 4ì:.
YE will eat

‘Only if THE WEATHER IS FINE will we even eat ICE-CREAM.’

In this sentence the focus in the only-if-clause triggers the use of cāi at the left edge of the verbal complex of the matrix clause. But instead of cāi being followed by some verbal category, another parametric cycle is inserted, namely an even-focus (bīngqīlín ‘ice-cream’), which must be followed by parametric yě to the left of the first verbal element of the matrix clause. The grammaticality of (44) thus shows that cāi and yě cannot be assumed to compete for a single syntactic position (unless we assume some recursive pattern).

On the other hand, such occurrences of two parametric words in a single clause are heavily restricted. I have been able to identify the following constraining factors:

(i) A focus and its parametric word must not be separated from one another by a nested focus, or a nested agreement marker, i.e. the focus-agreement configurations do not interlace.

(ii) No quantificational expression may intervene anywhere in the structure between the first focus and the second parametric word. (45a) states the general structure of licit double-focus agreement structures, the restrictions are represented in (45b) and (45c) (FOC represents the focal constituents, PAR represents the parametric particles). 16

(45) a. [FOC_TYPE1...[PAR_TYPE1 [FOC_TYPE2 [PAR_TYPE2 [M/AspP]]]]
   b. *[FOC_TYPE1...[FOC_TYPE2 [PAR_TYPE12 [PAR_TYPE2 [M/AspP]]]]]
   c. [FOC_TYPE1...(*Q)...[PAR_TYPE11...(*Q)...[FOC_TYPE2...(*Q)...
      [PAR_TYPE2 [M/AspP]]]]]

(46) is the bad version of (44) illustrating (45b). (47) instantiates (45c).

(46) * Zhǐyǒu tīlǎnqǐ hǎo, wǒmen lián bīngqīlín
   only-if weather good we even ice-cream
   (cāi yě/yē cāi) hui 4ì:.
   CAI YE/YE CAI will eat
   intended: ‘Only if THE WEATHER IS FINE will we even eat ICE-CREAM.’

(47) Zhǐyǒu tīlǎnqǐ hǎo, (*pingchāng) wǒmen (*pingchāng)
   only-if weather good usually we usually
   (cāi (*pingchāng) lián bīngqīlín (*pingchāng) yě hui 4ì:.
   CAI usually even ice-cream usually YE will eat
   ‘Only if THE WEATHER IS FINE will we (usually) even eat ICE-CREAM.’

The cases of (45b) and (45c) can be subsumed under a single heading: Since focus-background partitionings are structures involving quantification, (45b) and (45c) are just special cases of the more general restriction in (48).

(48) [FOC_TYPEA...[(*Q) [PAR_TYPE [M/AspP]]]]

(48) says that no quantificational expression may intervene between the focus which triggers the use of a parametric word, and the parametric word itself. This quantificational expression may either be a quantifier...

15 Gasde (1998) assumes two focus phrases, one of them within IP, the other one outside IP. These two focus phrases cannot be identified with the focus structures in the following examples because Gasde’s focus phrases are never adjacent; the parametric words in the following examples can, however, only be argued to be in immediately adjacent phrases.

16 As pointed out in section 3.1.2.B already, these factors are highly reminiscent of Aoun & Li’s (1993) Minimal Binding Requirement. Although focus quantification is a kind of quantification, I have decided not to analyze the relationship between focus and parametric words as a quantifier-variable structure. Perhaps this is inadequate, or the observed similarity can be accounted for on a more general level of analysis.
like pingchang 'usually' in (47), or another focus as in (46). (48) is thus just a variant of the generalization stated in section 3.1.2 that, within the cāi-clause, no scope-bearing element may intervene between cāi and its interacting focus. The scope of (48) is wider, though, because it is not restricted to cāi(-foci).

In (49) through (52) I present examples which illustrate all the logically possible combinations of complex focusing structures as in (44) if we make use of all combinatorial possibilities among foci interacting with parametric cāi, jīù, dōu and yě. None of these sentences violate any of the restrictions dealt with above. Some of them may be difficult to contextualize, or even slightly deviant, but all of them are interpretable.

(49) a. cāi – cāi
Zēiyōu tiānqi Bù hào, wǒ cāi zhēiyōu
only. if weather not good I cāi only
Nēi-ge diǎn fāng cāi xiǎng qù.
that-cl place cāi want go
‘Only if the weather is NOT good do I only want to go to THAT place.’
b. cāi – jīù
Zēiyōu tiānqi Hǎo, wōmen cāi zài ZHÉLÍ
only. if weather good we cǎi at here
jīù nēng wánr.
Jū can play
‘Only if the weather is GOOD can we play HERE.’
c. cāi – dōu
Zēiyōu tiānqi Hǎo, wōmen cǎi liǎn BǐNGQI LIN
only. if weather good we cǎi even ice-cream
dōu hui chí.
DOU will eat
‘Only if the weather is GOOD will we even eat ICE-CREAM.’
d. cāi – yě
Zēiyōu tiānqi Hǎo, wōmen cǎi liǎn BǐNGQI LIN
only. if weather good we cǎi even ice-cream
yě hui chí.
YE will eat
‘Only if the weather is GOOD will we even eat ICE-CREAM.’

(50) a. jīù – cāi
Rūguō tiānqi Bù hào, wōmen jīù zhēiyōu
if weather not good we Jū only
zǎi ZHÉLÍ cāi nēng wánr.
at here cāi can play
‘If the weather is NOT good, we can only play HERE.’
b. jīù – jīù
Rūguō tiānqi Hǎo, wōmen jīù zài ZHÉLÍ
if weather good we Jīu at here
jīù nēng wánr.
Jū can play
‘If the weather is GOOD, we can play HERE.’
c. jīù – dōu
Rūguō tiānqi Hǎo, wōmen jīù liǎn BǐNGQI LIN dōu chí.
if weather good we Jū even ice-cream DOU eat
‘If the weather is GOOD, we will even eat ICE-CREAM.’
d. jīù – yě
Rūguō tiānqi Hǎo, wōmen jīù liǎn BǐNGQI LIN yě chí.
if weather good we Jū even ice-cream YE eat
‘If the weather is GOOD, we will even eat ICE-CREAM.’
With these examples in mind, recall the claim put forward in this study that parametric cái, jìu, dōu and yě are agreement markers: Focus-quantificational types agree with their backgrounds. Now the question arises why two parametric words are allowed per clause while, for instance, two different aspect markers are never found in a single clause. If structures of foci and parametric words are agreement structures, and if they operate on a predicational level just like aspect markers, it is not at all clear how a single predicate can agree twice for different values of one dimension. I think the answer to this question must be that the parametric words are only parasitic on the verbal domain: For the purpose of focus-background agreement, the verbal domain is conventionally taken as the carrier category of the focus-agreement marker. Recall from section 3.3.1 that it is even possible to have verbs in focus in dōu/yě-sentences, and that even in those cases a dummy instance of the verb hosts the negation marker and the parametric word; cf. (53).

(53) Tā liàn LÀI dōu méi lái.
(s)he even come DOU not have come
‘(S)he hasn’t even COME.’

Focus-background agreement is thus not a “true” verbal category, with a “true” verbal category taken as one which may only have one value per clause or per eventuality. True verbal categories reflect properties of eventualities or situations; the system of reflecting focus-quantificational types within the background, which is the topic of this study, relates to the (in)compatibility of the truth of the asserted sentence with the truth of other, contextually relevant sentences. This is something different. For this different function, there is no inherent restriction of the number of possible focus-background partitions to one per sentence or clause.

Analyses which take parametric cái, jìu, dōu and yě to be heads of functional phrases are faced with the following syntactic challenges. First, a single functional phrase will not be enough to accommodate the above data: At least two stacked phrases must be allowed in a single clause. This may not be much of a problem, but the analysis must additionally allow for any relative order among the functional phrases, because we have seen that all combinatorial possibilities yield grammatical and interpretable results. A second possibility would be to say that sentences as discussed in this section may be interpretable, but that they constitute cases in which the syntactic possibilities have been stretched to the extreme. According to this view, one could argue that these data pose no particular challenge.

In this section I have shown that two occurrences of parametric words per clause are possible, provided the two structures, each consisting of a focus and a corresponding parametric word, do not interlace, and provided no other quantificational expressions intervene. While common verbal categories preclude such configurations (only a single tense marker may, for instance, be used per clause), structures of this kind are fine in our domain. I have argued that the parametric agreement markers are just parasitic on the verbal complex, because predicates are conventionally identified with backgrounds as the locus of focus-background agreement. Since clauses may have several foci, but only, for instance, a single tense specification, the occurrence of two parametric words per clause is not a mystery.

17 See footnote 15.
6 CONCLUSIONS AND OUTLOOK

6.1 MAIN CLAIMS AND RESULTS

The aim of this study has been to discuss the grammaticalized system of focus quantification in Mandarin Chinese. This system involves highly regular morphosyntactic agreement patterns between types of foci or contrastive topics preceding the verbal complex, and obligatory parametric particles at the left edge of the verbal complex.

In a first step (ch. 2), I have singled out the parametric uses of cài, jiù, dōu and ye as linguistic signs in their own right from among other uses of the same significants (and the same characters in writing).

Ch. 3 has been devoted to determining the conditions which trigger and constrain the use of parametric words, as long as the nature of the interacting foci or contrastive topics is kept constant and appropriate. The facts discussed in that chapter have led to the hypothesis that parametric words are agreement markers of focus-background structures. A background is, in certain conditions, obligatorily marked for the type of focus (or contrastive topic) preceding it. The locus of background agreement in Mandarin is the verbal complex, i.e. predicates are conventionally associated with backgrounds without this really being the case in each and every case.

In ch. 4 I have presented my account of the focus quantificational system behind the parametric words. The system of focus quantificational types is designed according to the logic of the traditional Aristotelian quantificational square: An existential or universal operator, combined with inner and/or outer negation, if applied to the domain of alternative sentences provided by the focus interpretation of a sentence, yields four basic types:

(i) negated existential quantification over the domain of alternatives (cài);
(ii) negated universal quantification over the domain of alternatives (jiù);
(iii) universal quantification over the domain of alternatives (dōu);
(iv) existential quantification over the domain of alternatives (ye).

The core system is enriched by a more specific restriction concerning dōu-foci. This focus type has the further property of restricting the members of the domain of alternative sentences to the same factuality status
as the asserted proposition. For factual sentences, counterfactual alternatives may thus only be considered in \textit{cidi}-sentences, \textit{jiu}-sentences, and in \textit{ye}-sentences. Apart from the four basic parametric words, two more members of the same paradigm, \textit{hui} and \textit{zoi}, have briefly been discussed, and the narrower restrictions that they put on their contexts have tentatively been stated. The discussions dealing with each parametric word have mainly concentrated on issues that have repeatedly been discussed in the literature. I have always aimed at making it clear where the link is between these particular discussions, and the general claim of the present study.

It has been the goal of ch. 5 to collect some problematic or special data that require further scrutiny, or more detailed investigations in the future. First, many examples display a recurrent pattern of seeming syntactic-semantics mismatches: A subordinate clause within the scope of the overall focus-background structure contains an operator with scope above the focus-background structure. This kind of mismatch arises if one aims at identifying the subordination structure with the structure of a conditional sentence. The problem vanishes if one takes the subordinate clause minus the modal to be the nuclear scope of a tripartite modal quantification structure, while the superordinate clause constitutes the restricting circumstantial modal base, or accessibility relation. The resulting structure directly mirrors Kratzer’s (1981, 1991a) notional constituency of modalized propositions, the only slightly peculiar fact being that the restrictor of the quantificational structure is syntactically superordinate. Moreover, ch. 5 contains an analysis of certain post-parametric predicates as conventionalized markers of modal ordering sources independent of the modal force. To the best of my knowledge, such a system has never been proposed in the theoretical literature, but its existence is implicitly predicted by current theories of modality. In the last part of ch. 5 sentences with two parametric words have been under discussion. The fact that all combinatorial possibilities of two parametric words can yield interpretable sentences poses some challenges for an explicit syntactic theory covering our empirical domain.

I have not paid any closer attention to the interaction of the system of focus quantification with other verbal categories such as aspect marking. This is definitely a task for future research, even though previous research in this area has already hinted at some connections.

Although I may be running the risk of repeating myself, I would like to emphasize once more the central status that the phenomenon treated in this study has within Mandarin grammar. Mandarin is a language with a rich syntactic apparatus, and scarce morphological devices. A phenomenon that involves the grammaticalized triggering of an agreement marker in the presence of another overt category is quite remarkable in such a language. The conclusion to be drawn from this is that the system of Mandarin focus quantification is part of the core of Mandarin grammar. In terms of centrality, few categories of Mandarin grammar with a segmental reflex can compete with this phenomenon. In the verbal/sentential domain aspect marking, V-not-V question formation, and the system of sentence final particles probably can; in the grammar of Mandarin nominals I can only think of the classifier system as matching grammatical relevance with segmental representation in a comparable way.

6.2 THE WIDER CONTEXT

From the point of view of cross-linguistic research and theoretical linguistics the following points should be stressed.

6.2.1 The exotic status of the quantificational type relating to \textit{jiu}

The first general question arising from the results of this study has to do with the focus-quantificational type relating to \textit{jiu} (see section 4.2): Negated universal quantification over the domain of alternatives has, as far as I know, never been proposed as a conventionalized notion in any system of focus quantification. If my analysis of the Mandarin data is correct, it is highly unlikely that no other language should have conventionalized the same focus-quantificational type. Perhaps this seemingly exotic quantificational type is not all that rare once we seriously start watching out for it. Even if segmental focus markers of the non-universal quantificational kind turn out to be extremely rare, or even absent in most languages, it need not follow that this type of focus-quantification is not expressed in a conventionalized way. Just think of the function C(ontrastive)-topics fulfill (see section 4.2.4 for details): If you buy me a [\textit{DIAMOND RING}]c-top, I will MARRY YOU. This conditional, with the indicated information structure, may correctly be paraphrased as: ‘A situation in which you buy me a diamond ring is also a situation in which I will marry you, and there is at least one alternative situation in which you buy me something else, and I will not marry you in that situation’. This is precisely the kind of information structure triggering the use of \textit{jiu}, and it was not a coincidence that \textit{C}-topics were discussed in the sections dealing with the function of \textit{jiu}. If \textit{jiu} may, among other things, reflect information-structural facts that are often expressed by prosodic means in other
languages, it is not such a big surprise anymore that many languages lack words that are similar to jiù in function.

6.2.2 Two topological focus-background systems

A second general thought concerns the overall topological system of focus positions in Mandarin: If we do not just look at the configurations triggering the use of parametric cāi, jiù, dōu and yè, but also look at the system of “common” focus particles in adverbial position such as zhī ‘only’ or shènzhī ‘even’, we are able to make some interesting observations. Sentences with parametric particles will almost invariably have their foci to the left of the main predicate (the only exceptions being the cases of cāi-foci to the right of cāi; see section 3.1.2.A). Sentences with adverbial focus particles like zhī ‘only’ will always have their foci to their right. Some examples from the very first section of this study are repeated in (1) and (2) to remind us of this topological diversity.

(1) a. Lǎo Wáng zhī hē CHÁ.
   Old Wang only drink tea
   ‘Old Wang only drinks TEA.’

   b. Lǎo Wáng zhī yě CHÁ *(cāi) hē.
   Old Wang only tea CAI drink
   ‘Old Wang drinks only TEA.’

(2) a. Lǎo Wáng shènzhī hē CHÁ.
   Old Wang even drink tea
   ‘Old Wang even drinks TEA.’

   b. Lǎo Wáng yě/DOU CHÁ *(yě/dōu) hē.
   Old Wang even drink tea YE/DOU drink
   ‘Old Wang drinks even TEA.’

The a-sentences have focus particles in adverbial position, while the b-sentences have preposed objects in focus, and parametric words must be used. There is a difference between the range of readings each type of sentence may have: While it is in principle possible to have bigger focus portions that include the whole VP in the a-sentences, the foci must be narrow in the b-sentences. We thus get two different focus(-background) topologies in Mandarin, depending on whether the a-type system, or the b-type system is used. This is schematically represented in (3).

Recall that constraints on movement and canonical positions heavily restrict the possibility to choose from these focusing schemata in each single case. Some canonically postverbal constituents may not move, and therefore the sentences in which they occur conform to the background-first schema of (2a)/(3a) if the postverbal constituents are focused. On the other hand, no canonically preverbal constituent may move to a postverbal position (except for afterthoughts), and therefore sentences with such an expression in focus conform to the focus-first schema of (2b)/(3b). Still, in very many cases speakers may choose between the two schemata. Can we say anything about the factors determining these choices?

We may be able to shed some light on the determinants if we consider what is usually claimed about the default position of foci within an utterance. Most researchers dealing with issues of information structure would agree that the unmarked position of a focus within an utterance is within the verbal phrase, or that the whole verbal phrase should be the focus (cf. Lambrecht 1994: 296ff or Vallduvi 1992: 123). This is intuitively plausible, it reflects the tradition of characterizing the function of subjects and frame-adverbials as non-focal, and it also fits together with the focus readings one may get if a sentence is pronounced with a default prosody. In many languages a main accent on the most deeply embedded lexical constituent of a complement phrase will be compatible with foci up to the level of the whole verbal phrase or even beyond (cf. Selkirk 1984, 1995, Cinque 1993 or Schwarzschild 1999). This is no different in Mandarin as witnessed by (1a), in which an accent on chá ‘tea’ makes it possible to interpret hé chá ‘drink tea’ as the focus. Disregarding thetic or all-new utterances with intransitive verbs, a non-default prosody with the main accent on some other element will always result in a narrow

1 The focus in the b-schema must, of course, be restricted to a reading triggering the use of a parametric word. It is not the case that just any preverbal focus triggers the use of a parametric word.

2 In Kiss’s (1998) focus theory the default VP-foci discussed here are closest to her information foci, whereas the foci preceding the VP come closest to her identificational foci. But Kiss’s system cannot be applied to the Mandarin facts because in Kiss’s system only-foci and even/also-foci must be categorized differently: All only-foci must be identification, while all even/also-foci must be information foci. This classification cannot be applied to the Mandarin data, because both only-foci and even/also-foci occur in all positions, the only difference being whether parametric words must be used or not.
focus, or at least in a focus that does not comprise the whole VP, or even the whole utterance. We may therefore state the following tendencies for the choice of focusing systems in Mandarin.

(4) Tendencies in the choice of focusing systems in Mandarin, depending on intonation patterns:

(i) Utterances with default intonation contours have focus particles in adverbial position, if a specific focus quantificational type is to be indicated at all.

(ii) Utterances with non-default intonation contours have focus-background agreement, if a specific focus quantificational type is to be indicated at all.

If the content of these tendencies is mapped onto syntactic categories, the tendencies in (5) follow.

(5) Tendencies in the choice of focusing systems in Mandarin, depending on the category of the focus:

(i) Foci within the VP are marked by focus particles in adverbial position, if a specific focus quantificational type is to be indicated at all.

(ii) Foci outside the VP trigger focus-background agreement, if a specific focus quantificational type is to be indicated at all.

There is a potentially confusing side to this two-fold system of Mandarin focus marking. On the one hand, there is the system investigated in this study: Focus quantificational types are obligatorily marked on the edge of the verbal complex (i.e., probably immediately above the AspP or the M(odal)P; see Shyu 1995) if the focus precedes the verbal complex, and throughout all chapters I have emphasized the high degree of conventionalization, or grammaticalization of this system. Moreover, the conventionalized categories are highly general, systematic, and exhaustive. They are general, because there is only a handful of types of focus quantification to cover all cases. They are systematic, because there exist clear and simple relationships between the different categories. They are exhaustive, because any more specific type of focus quantification one may think of can be subsumed under one of the four general types. Markedness theory makes us expect such high degrees of conventionalization in core areas of grammar. Now it turns out that the focus-background configurations that trigger the highly conventionalized system are really of the non-default kind: Default foci are (part of) VP’s, but our foci precede VP’s. In other words: The grammaticalized system of parametric words is used in marked focus-background configurations, whereas the un-

marked focus-background structures of VP-(internal) foci do not go hand in hand with the obligatory segmental representation of the focus type.3

I only have a tentative idea how to cope with this paradox. Perhaps the normal position of foci is VP-internal if they are not restricted to a specific focus quantificational type; and perhaps the normal position of foci is preverbal if their interpretation is restricted to a specific focus quantificational type. This idea is not as far-fetched as it may appear to be. A count of parametric uses of 萘 with preceding foci on the first 45 pages of my corpus of radio plays (rp) has yielded 22 tokens. 萘, the only-word in adverbial position, only occurs eight times in the same stretch of text. This means that if an only-focus occurs in this corpus, almost three quarters are of the preverbal kind, and less than one quarter is VP-internal. The hypotheses to be tested against the background of larger samples then are as follows: Foci that are specified for a particular focus quantificational type tend to precede their backgrounds, and they raise if necessary; foci that are unspecified for a particular focus quantificational type tend to follow their backgrounds. This hypothesis fits in well with the claims concerning the quantificational nature of the phenomena investigated in this domain: If there are any foci that undergo quantifier raising, then our foci ought to be among them. Other foci, which are not restricted to any particular quantificational type, may, by contrast, stay in situ within VP.

6.2.3 Cross-linguistic parallels and the emergence of the Mandarin system

If focus quantification plays such an important role within Mandarin grammar, we should be able to find more languages with comparable systems. From an areal perspective, the “focus” systems of Tagalog and other Austronesian languages may come to mind first (for a concise reference see Palmer 1994), but upon closer inspection, those systems are quite different from the Mandarin case. In the Austronesian languages verbal morphology reflects the thematic role of a nominal constituent which is highlighted in some way (not generally as a focus as we understand this term here).

Other systems that involve the marking of information-structural categories on the verb, or somewhere within the background, have arisen in different parts of the globe. In section 3.4 we have already discussed the Yukagir case, which involves the verbal marking of the difference be-

3 Recall that words like 萘 ‘only’ or 然 häzh ‘even’ may always be dropped without influencing the grammaticality of an utterance.
between subject focus, object focus, and verb focus. Another area where background marking is found is East Africa. In several Cushitic languages verbs are marked according to whether a certain focus or topic construction is used (Saeed 1999). However, in none of the Siberian or African systems can different categories reflecting different kinds of quantification over alternatives, as in the Mandarin system, be observed.

A language that is, and has been, spoken in an area neighbouring China is Japanese. In earlier stages Japanese did have a grammaticalized system of background marking, the so-called 'Kakari-Musubi' construction. For a recent comprehensive treatment of Kakari-Musubi from a perspective similar to the one taken here, and for further references, cf. Schaffar (2002). The proper treatment of the Kakari-Musubi construction in Old Japanese is a matter of ongoing discussion. Some facts are relatively well established, though. Firstly, Kakari-Musubi is an agreement mechanism by which a verb form is obligatorily marked for a specific kind of nominal. The nominal itself is marked by one of a series of particles, and the verbal marking differs according to the particle used. The different particles can be classified according to whether they occur in assertive focus constructions, in constructions with wh-words, or in questions, at least this seems to hold for the Heian era (794–1185 A.D.). Secondly, the clauses in which the Kakari-Musubi mechanism was used arose from cleft constructions involving nominalized verb forms. The agreement mechanism as such constitutes a direct parallel to the Mandarin system investigated in the present study, except for the fact that Japanese, being an agglutinating language, has developed true verbal endings as opposed to the parametric particles of Mandarin. The categories involved are different, though. While the distinctions in the Japanese system (focus vs. wh-element vs. question) are clearly quantificational, they do not involve quantifiers that differ in quantificational type as discussed in the Mandarin case. With regard to the historical facts of nominalization from which the Kakari-Musubi system has emerged, we are again confronted with a blind spot of the present study, i.e. the interaction of Mandarin focus-background agreement with aspectual restrictions. If the Mandarin construction likewise had cleft-constructional roots involving nominalizations, careful attention would have to be paid to the interaction of nominalizations, aspectual restrictions, and focusing. Moreover, the neglected field of the different Mandarin focus constructions involving (old) nominalizations, i.e. the shi...de-construction and its relatives (cf., among many others, Chiu 1993), will have to enter the picture. The comparison with the Kakari-Musubi system of Old Japanese is sure to lead to a more fine-grained view of the Mandarin system, but Old Japanese is not likely to have influenced Mandarin by way of language contact in such a way that Mandarin could be said to have adopted the general system of focus-background agreement from Japanese. It is, quite to the contrary, a well-known fact that Chinese has heavily influenced Japanese, especially its lexicon, with reverse borrowings from Japanese to Chinese being recent developments of the past 120 years or so.

Still, one might tentatively assume that language contact has played a role in the emergence of the Mandarin system. In this respect, Manchu may turn out to be important for two reasons. Firstly, it is well-known as a contact language of Mandarin. The second reason why Manchu may be interesting is that Manchu has focus particles to the right of foci. This is nothing special, because Manchu is, like all other Altaic languages, heavily left-branching. Therefore, a focus particle which c-commands its focus must follow the focus. As a consequence, the resulting structures often look like Mandarin sentences from the point of view of linear order, but what is a focus particle in Manchu is a parametric word in Mandarin. Compare (6) and (7). I have taken (6) from von der Gabelentz’s 1832 grammar of Manchu (p. 58), and I have not changed his transliteration.

4 Over the past two decades, the strong Altaic (Manchu) influence on Mandarin has been a recurrent topic in Chinese linguistics (Norman 1982, Hashimoto 1986, Okada 1992, Ji 1993, Wadley 1996). The last dynasty of Chinese emperors, the Qing dynasty (1644–1911 A.D.), was of Manchu origin, and Wadley 1996 argues that the Manchus who lived in Beijing soon switched from Manchu to Mandarin as their first language. In the terminology of Thomason & Kaufman 1988, this may be a case of language shift: While many cases of language contact affect the lexicon most, and have little or no influence on the syntax or phonology of the target language, the situation in the postulated Manchu-Mandarin situation of language shift would have been more complex. Among the group of bilingual Manchus in the early times of the Qing dynasty, the regularities of typical borrowing held true: More and more Mandarin words were borrowed from Mandarin into Manchu, without Manchu syntax or morphology being affected. Later on, the Manchus switched to Mandarin as their only language. This kind of Mandarin had only Mandarin lexemes and practically no inflection, but many syntactic structures of Manchu had been preserved. This structurally Altaicized Mandarin became the prestigious standard language of more and more genuine speakers of Mandarin. These speakers may have reanalyzed the Manchu structures of the prestigious language in a way that is natural for a native speaker of Mandarin. Being the prestigious dialect of Beijing, it became the major model for the present-day standard ‘pītonghuá’. From the perspective of Mandarin, the resulting state thus looks like a reverse borrowing situation, because the Chinese lexicon is virtually unaffected, but structures of Manchu syntax have found their way into Mandarin.

This scenario of language shift is very plausible, and no strong counter-evidence against it has so far been presented, but it may not be considered an undisputed fact of history.
The guiding principle of the transliteration was to allow for a good result if the transliteration is pronounced as if it were French).\(^5\)

(6) Manchu (early 19th century)

\[\text{Ter-ëi toumen de EMGERI be} \]
\[\text{this-GEN 10,000 DAT once ACC} \]
\[\text{inou same mouterakö kai.} \]
\[\text{also knowing not can PRT} \]

‘Among this vast number, one does not even know ONE [thing].’

(7) Tämên dângzhâng, wô (liân) yi-ge rèn yê bû rènshì.

‘Among this vast number, one does not even know a SINGLE person among them.’

Look at the Mandarin sentence first. It is an instance of the kind of sentences well-known to us from sections 3.3.1 and 4.3.3: The constituent hosting the focus, i.e. the object nominal, precedes the verb, it may itself be preceded by liân ‘even’, and it is obligatorily followed by parametric yê, which has another use as an adverbial focus particle meaning also. If we compare the sequence of ‘focus constituent + yê + negation + predicate’ in the Mandarin sentence with that of the Manchu sentence, the similarities are astonishing: The linear sequences of the comparable elements in Mandarin and Manchu coincide, the only relevant difference being that the position which is occupied by a real focus particle in Manchu, viz. inou ‘also’, is occupied by parametric yê in Mandarin, while the optional Mandarin focus particle precedes the focus. This similarity is so surprising because the branching directions of present-day Mandarin and Manchu are opposite. My speculative claim here is that the unusual linear make-up of Mandarin parametric sentences may have been modelled according to the Manchu type, but without changing from a right-branching to a left-branching structure. Therefore, the structural relation holding between the original focus particle yê ‘also’ and its interacting focus cannot be interpreted as an instance of a focus particle c-commanding a focus; it must rather be reanalyzed as a focus c-commanding a reflex of the focus type further down in the structure.\(^6\)

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\(^5\) GEN: genitive case marker; DAT: dative case marker; ACC: accusative case marker.

\(^6\) Liu M. (1997) is a study of the diachrony of jiû. What Liu terms ‘antecedent-consequent linking jiû’ comes closest to (portions of) my parametric jiû, and it is fairly stable as early as in Late Middle Chinese (7th–13th century). At this early time the hypothesized language shift could not have taken place yet. Liu does not study facts of information-structure as we understand this domain here, and therefore it may still be true that Liu’s antecedent-consequent linking jiû only entered the paradigm of information-structurally sensitive words later.
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