Yě, yě, yě: On the syntax and semantics of Mandarin yě

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Chapter 2 Additive *yě*

The main goal of this chapter is to argue for the idea that the Mandarin additive particle *yě* is an anaphoric element.

In this process, I will answer a number of questions, some more basic than others. First, I will show that additive *yě* displays a number of properties which are defining properties of anaphoric elements. This will be done in section 2.3. The next, naturally following, question concerns the antecedents of additive *yě*: if it is an anaphoric element, what are its antecedents? We will see that when it comes to the conditions the antecedents have to meet, the main correlating factor is similarity in argumentative orientation in the discourse, but how is this determined? These questions will be discussed in section 2.4.

In the last main section of this chapter, section 2.5., we turn our attention to the relation between the added constituent and additive *yě*. How are the added constituent and additive *yě* positioned relative to each other and what difference does it make, whether the added constituent follows or precedes the additive particle? How is the relation between the additive particle and the added constituent established in each situation? A related issue to be discussed in this section has to do with stress, because in some cases *yě* is stressed while in others it is not, which raises the question whether stressed *yě* and unstressed *yě* have the same meaning and function. We will look at this question from the perspective of ideas developed by Umbach (2012).

Before we get to these questions, we will do some ground work. In section 2.2, we will establish that *yě* is, in fact, an additive particle. But first, in the next section, I will introduce some of the notions regarding focus and alternative semantics which we will need later on to be able to verify the idea that additive *yě* is a focus particle that interacts with other constituents in the sentence.

2.1 Introduction to focus and alternative semantics

Phenomena relevant to focus have been the subject of discussion for a long time (Jackendoff 1972; Chomsky 1981; Taglicht 1984; von Stechow 1982, 1991; Jacobs 1983, Rooth 1985; 1992, 1996; König 1991; Krifka 1991, 1995, 2001). **Focus** often concerns the new or important information in a sentence that "is assumed by the speaker not to be shared by him and the hearer" while **background** concerns the given or presupposed information that "is assumed by the speaker to be shared by him and the hearer" (Jackendoff 1972:16).

Focus can be found in many different contexts and has different instantiations (Zimmermann and Hole 2009). For instance, it can be illustrated with "the question-answer paradigm" in which the part of a sentence that

answers the relevant *wh*-question can be seen as the focus of the sentence (Rooth 1996:276; Gundel 1999: 295). Here is a sentence from Hole (2004: 5) to demonstrate this:

(1) *Q: Who called the meeting?*
     A1: BILL called the meeting.
     *A2: *Bill called the MEETING.*

As is shown in (1: A1), *Bill* in the answer, which is the new information, can be seen as the **focus constituent** of the sentence or the **associated constituent** of focus. Two observations about focus can be made on the basis of (1): first, the focus constituent is often prosodically more prominent in the sentence. For instance, BILL in A1 carries the pitch accent of the sentence. The pitch accent on the focus constituent is argued to be the grammatical realization of the abstract "F-feature" attached to focus constituents, i.e., the accented constituent is "F-Marked" (Jackendoff 1972; Rooth 1992; Selkirk 1984, 1995: 553). As shown in (1), the placement of the pitch accent will influence the interpretation of the sentence. Second, focus is sensitive to the preceding discourse and thus is discourse-anaphoric. This can be demonstrated by the "congruence" between the question and the answer in (1) (Krifka 2001). The "Q-A congruence" in (1) can thus be formally represented by (2):

(2) $[[Q]] = <\lambda x.\ x\ called\ the\ meeting,\ x \in person >$
     $[[A1]] = <\lambda x.\ x\ called\ the\ meeting,\ Bill >$
     $*[[A2]] = <\lambda x.\ Bill\ called\ x,\ the\ meeting >$

The question in (1) determines a set of potential answers or **alternatives**, i.e., *someone called the meeting.* And the answer must be one of the alternatives restricted by the question. That is why A1 is good, but A2 is infelicitous.

There are different approaches in the literature to account for focus relevant phenomena.[8] The analysis in this dissertation is mainly based on the **alternative semantics** laid out by Rooth (1985, 1992, 1996). According to Rooth, an expression α has two meaning components: one is the ordinary value, which is the lexical meaning of α and is represented by $[[\alpha]]^o$, the other is the focus value, which is a set of objects or alternatives that match α in type

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[8] Apart from alternative semantics, another approach to focus is called the "Structured Propositions" or "Structured Meaning", which introduces a partition on the meaning of propositions with focus marking into focus and background (von Stechow 1982, 1991; Jacobs 1983; Krifka 1991, 1995, 2001). The algorithm in (2) can be seen as one application of this approach. The first part, i.e., *x called the meeting*, can be seen as the background part, and *Bill* is the focus part.

and is represented by $[[\alpha]]^f$. The core idea of alternative semantics is that we can come up with the alternative propositions by making a "substitution" with the focus constituent and the preceding discourse provides an **antecedent** which denotes "an alternative to the scope of focus" or "a set of alternatives". The focus marking, i.e., the pitch accent, signals the locus of variation in the sets of alternatives.

Take (1) as an example. The focus semantic value for the answer to the sentence in (1) [$_s$ [Bill]$_F$ called the meeting] can be seen as a set of alternatives in the form of 'x called the meeting'. The focus value of *Bill* in sentence (1) does not only assert its ordinary semantic meaning that Bill called the meeting, but also triggers a set of potential alternatives, such as John called the meeting or Mary called the meeting and so on. The focus value of sentence (1) can be written with set abstraction symbols as follows:

(3) [$_s$ [Bill]$_F$ called the meeting]^f = { call (x, m) | $x \in E$ }, where E is the domain of individuals.

The alternatives denoted by the focus value of (1:A1) can be unlimited as long as it satisfies the necessary requirements of (3), i.e., x is an individual. However, in the real world, the alternatives under consideration concern only the contextually relevant set of alternatives, which is often a smaller number than those corresponding to the unrestricted focus value. A pragmatic or context determined domain C is therefore introduced and C is a subset of the focus semantic value of the sentence.[9] Rooth uses the English restrictive focus particle *only* to demonstrate the domain constraint role of focus, as is illustrated in (4):

(4)   a. [$_S$ Mary only VP]
      b. $\forall P [P \in C \wedge P (m) \rightarrow P = VP']$
      c. Focus-determined constraint: $C \subseteq [[VP]]^f$
      (Rooth 1992: 79)

As shown in (4), the focus particle *only* does not apply directly to the focus value, but quantifies the overt variable C. The pragmatically determined C is a subset of the unrestricted focus value. While the ordinary value of the

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[9] Note that Rooth argues that the information about C does not only derive from the semantics of focus, but may also derive from some pragmatic process to fix the value or add further information. This is an important assumption because later we will see an example showing that pragmatics or context may serve as a 'restrictor' on the domain of alternatives and interact with the interpretation of the Mandarin focus particle *yě* in some cases.

proposition is one alternative for C, and therefore a subset of the subset of the focus value.

With the theoretical assumptions laid out and relevant notions introduced, we can now start to investigate additive *yě*.

2.2 Mandarin *yě* as an additive particle

It is generally assumed that additivity is the semantic core or the "basic use" of the Mandarin particle *yě* (e.g., Biq 1989; Hou 1998; Lü 1999; Hole 2004). As an additive particle, *yě* always triggers the alternatives in the discourse. The additive use of *yě* is essentially the same as that of English *also*, German *auch* and Dutch *ook.* As noted by König (1991: 62), these words all share the following characteristics: "All sentences with simple additive particles entail the corresponding sentences without particle and presuppose furthermore that at least one of the alternative values under consideration in a context satisfies the complex predicate." For instance, as Yang (1988: 56) points out, in the following sentence the use of *yě* leads to at least three possible alternatives in the background.

(5) *Wáng   lǎoshī   yě   jiāo   shùxué.*[10]
    Wang   teacher   also   teach   Math
    'Teacher Wang also teaches Math.'
    a. There is at least one other person who teaches Math.
    b. Teacher Wang teaches at least one other subject besides Math.
    c. Teacher Wang not only teaches, but also studies Math.
    (Yang 1988: 56)

In fact, we can add another alternative to (5) if the whole VP is the focus constituent, for instance:

    d. Teacher Wang does not only teach Math, he is also the headmaster.

Following the change of focus constituents in the host sentence of *yě*, four possible sets of corresponding alternatives can be derived. Applying the theory of alternative semantics, the four sets of alternatives are obtainable via a simple substitution in different positions of the focus constituent, namely the subject, the verb, the object and the whole VP as illustrated in (5). It is clear that with *yě* inserted in the sentence without any background, every

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[10] The readers may find that when you read out the sentences in this chapter, additive particles in some sentences are stressed, while others are not. The stressed and unstressed variants of additive particles will be immediately discussed in 2.5. For the purpose of the present discussion, this is not important.

constituent of the sentence can be viewed as the added information to the alternatives in the background. This illustrates the additive nature of Mandarin *yě*, which is also consistent with the representation of additive particles proposed by Krifka (1999, cf. Reis and Rosengren 1997):

(6) $[ADD_1 [...F_1...]]: [...F...] (\exists F' \neq F [...F'...])$
     Assertion   Presupposition
     (Krifka 1999: 111)

(6) can be expressed as that the adding function activated by the additive particle adds the expression in focus, represented by F in (6), to the presupposed alternative F', which is semantically the same type as F. In line with König (1991) and Krifka (1999), the Mandarin additive *yě* can also be seen as a "presupposition trigger" and it always presupposes the existence of at least one alternative that fits the complex predicate. The alternative(s) in the context invariably hold up regardless of from what standpoint we consider the host sentence, i.e., to assert, to deny, to wonder, to suppose and so on. If we add the words expressing the above attitude in (5), what it presupposes stays exactly the same, as shown below:

(7) *Wǒ*   *bú-rènwéi/xiǎng-zhīdào-shìfǒu/cāicè*
     I   not-think/want-know-whether/guess
     Wáng   *lǎoshī*   *yě*   *jiāo*   *shùxu*
     Wang   teacher   YE   teach   Math
     'I don't think that/wonder whether/guess that Teacher Wang also teaches Math.'
     a. There is at least one other person who teaches Math.
     b. Teacher Wang teaches at least one other subject besides Math.
     c. Teacher Wang not only teaches but also studies Math.
     d. Teacher Wang does not only teach Math, he is also the headmaster.

2.3 Additive *yě* as an anaphoric element

Additive particles are often regarded as focus particles due to the fact that they are closely associated with the focus constituent of the sentence. As we mentioned in 2.1, focus is in nature discourse-anaphoric and sensitive to preceding discourse. In this section, I will demonstrate the anaphoric properties of additive *yě* and what conditions are needed to be a viable antecedent for *yě*.

2.3.1 The anaphoric properties of additive *yě*

As noted by Rooth (1992, cf. van der Sandt 1992, Geurts 1999, van der Sandt and Geurts 2001), an additive particle is much like an "anaphoric element" such as a pronoun, on a quest to find an antecedent or licenser. The anaphoric element is claimed to be a linguistic entity which "recalls to the consciousness of a hearer/reader entities or concepts that have already been introduced into a discourse" (Botley and McEnery 2000: 2) and thus indicates a "referential tie" to the antecedent (Tognini-Bonelli 2001:70). The interpretation of an anaphoric element has to be contextually-dependent. As we will discuss in detail below, just like pronouns, an additive particle has three important anaphoric properties: firstly, it has no substantial lexical meaning itself and thus it allows no accommodation; secondly, it always refers to something in the same sentence or in the linguistic context. It has to be interpreted anaphorically in relation to an antecedent; thirdly, there is a nonsymmetric relation between the two parts coordinated by the additive particle, i.e., the additive particle always refers backwards to the antecedent, and not the other way around.

The anaphoric nature of additive particles is evident from the following phenomena: Firstly, it has been shown by König (1991), Krifka (1999) and Hole (2004) that the use of an additive particle has no influence on the truth value of the host sentence. As seen in (5), the sentence with additive *yě* does not alter the truth of the proposition without it. There is no contribution of additive *yě* to the host sentence in lexical meaning.

The second property is relevant to the first: due to its lack of lexical meaning, the interpretation of additive particles always depends on the preceding context. The semantic difference of the four situations listed in (5) can only be triggered when considering the relation to the background alternatives in the preceding discourse.

One observation is relevant to the first two properties. Although the existence of an alternative to the host sentence is presupposed, the presupposed alternative cannot be retrieved solely by the particle. To satisfy the presupposition of additive particles, it has been first observed by Kripke (1990, also in Kripke 2009) that an explicit antecedent, which can provide at least one alternative to the proposition of the host sentence, is required to license the additive particle. Consider (8):

(8)*   Sam is having dinner in New York tonight, too.
     (Kripke 2009: 373)

If an explicit alternative or an "active context" in Kripke's term indicating the existence of another person who is having dinner in New York cannot be

found in the preceding context, the sentence is bad, even though, surely, there must be someone else who is having dinner at the same time in such a big city. Although the presupposition can be trivially satisfied, the sentence still sounds bad without context. This shows that the interpretation of the host sentence of additive particles can never be independent of its preceding discourse. I shall return to this observation in the following section.

The third property that can be linked to the anaphoric nature of additive particles concerns the nonsymmetric dependence relation between the two clauses, i.e., the sequence between the antecedent and the host sentence of *yě* is important. For instance, if we switch the order of the two clauses in (9), we get a degraded sentence. Compare (9) with (10):

(9) *Zhāng Sān   yǒu   yí-ge   nǚér,*
     Zhang San   have   one-CL   daughter,
     Lǐ Sì   yě   zhǐ   yǒu   yí-ge   háizi.
     Li Si   YE   only   have   one-CL   child
     'Zhang San has one daughter. Li Si has only one child too.'

(10)**Lǐ Sì   zhǐ   yǒu   yí-ge   háizi,*
     Li Si   only have   one-CL   child
     Zhāng Sān   yě   yǒu   yí-ge   nǚér.
     Zhang San   YE   have   one-CL   daughter,
     'Li Si has only one child, Zhang San has one daughter too.'

The nonsymmetric dependence relation can also be found between pronouns and their antecedent in coordinated sentences like the ones in (9)-(10): they are always anaphoric and never cataphoric in such contexts, another similarity between additive particles and pronouns.

2.3.2 The anti-accommodation property of additive *yě*

As shown in (8), the additive particle *too* requires an explicit anaphoric reference in the preceding discourse to identify its presupposition. Note that, as a contrast, the presupposition of some structures does not need to be verified in the preceding discourse. Consider (11).

(11) I don't want to be near the smoking section because [I used to smoke and] I've just stopped smoking.
     (Chierchia and McConnell-Ginet 2000: 32)

The sentence in (11) 'I have just stopped smoking' presupposes the clause in the square brackets. However, different from (8), the presupposition does not

need to be verified in the preceding discourse. The listener, e.g., a reservations clerk, is expected to accept the presupposition without any problem. The difference between (8) and (11) is that the presupposition in (11) can be derived through what is called "**accommodation**". According to von Fintel (2008: 141-142, cf. Karttunen 1974, Lewis 1979), presupposition accommodation occurs when the presuppositions of the speaker's sentence is not yet fulfilled and the listener "makes the same tacit extension" of the prior common ground that the speaker appears to have made. As a result, the context is adjusted quietly and without fuss when the utterance is processed. The presupposition "I used to smoke" in (11) can be accommodated due to the lexical meaning of *stop,* but the presupposition of *too* cannot be derived in the same way. The resistance to accommodation is completely in line with the hypothesis that the additive particle, on a par with pronouns, does not have sufficient descriptive content for accommodation (Asher and Lascarides 1998, Zeevat 1992, 2004).

Incidentally, this anti-accommodation assumption is challenged by Van der Sandt and Geurts (2001) who divide the presupposition of *too* into two parts, viz., the anaphoric element or pronominal part, which must be bound to some parallel information in the antecedent (which is in line with Kripke), and the descriptive part which can "be resolved by way of accommodation" (Van der Sandt and Geurts 2001: 4). Therefore, contrary to the claim that *too* hardly has any meaning apart from inducing a presupposition, they argue that the presupposition of *too* allows for accommodation. One of their examples is (12), in which the host sentence of *too* requires for the truth of the presupposition that the boss will come. And the interpretation of (12) thus forces the accommodation of the host sentence of *too*.

(12) Either the boss will stay away from the party, or John will come, too.
       (cf. Kripke 2009:384)

However, sentence (12) cannot be taken as a good example to show that the presupposition of *too* admits accommodation. The second conjunct in (12), with *too*, presupposes a set of alternatives that someone else will come to the party. The presupposition can be verified by the antecedent sentence. It is very easy to fill in the missing part 'Either the boss will stay away from the party, or…", i.e., "…(or) the boss will come to the party". In other words, the antecedent, which can identify the presupposition of the host sentence of *too*, can be derived from the conventional implicature of the first conjunct of (12). Therefore, it is not obvious that accommodation happens in the second conjunct with *too*. The anti-accommodation property of *too* can thus be maintained. We will see later that the anti-accommodation property of the

additive particle is one crucial reason to separate additive *yě* from its scalar counterpart.

So far, I have argued that the additive particle should be treated as an anaphoric element and a few anaphoric properties have been discussed to justify the treatment, namely, it is lexically void; to satisfy its presupposition, the host sentence of *yě* requires an explicit antecedent (which will be discussed and revised in the subsequent section); and it shares the backward dependency with other anaphoric elements. Its anaphoric nature and its lack of lexical meaning have certain interesting consequences, for instance, it resists presuppositional accommodation.

We can see that the interpretation of additive particles, being the anaphoric elements that they are, is very much dependent on their antecedents. In the following section, we will discuss the conditions that a good antecedent for additive *yě* should meet.

2.3.3 Antecedents of additive *yě*

As shown in (8), the antecedent of the additive particle has to be mentioned in the context and it cannot be derived by presupposition accommodation. To satisfy the presupposition of the additive particle, the antecedent is often lexically similar to the host sentence. The following Mandarin sentences demonstrate this (Biq 1989: 3):

(13) *Nǐ   qù   Běijīng,   tā   yě   qù   Běijīng.*
     you   go   Beijing,   he   YE   go   Beijing
     'You will go to Beijing and he will also go to Beijing.' (= (1) from Chapter 1)

(14) *Tāmen   huì   shuō   Zhōngguó-huà, yě   huì   shuō   Yīngwén.*
     they   can   speak   Chinese   YE   can   speak   English
     'They can speak Chinese; they can also speak English.'

(15) *Zhè-ge   rén   zuótiān   lái-le,*
     this-CL   person   yesterday come-PERF
     jīntiān   yě   lái-le.
     today   YE   come-PERF
     'This person came yesterday; he also came today.'

The similarity between the antecedent and the host sentence of *yě* is straightforward in (13)-(15). In all these sentences, there is only one different constituent (or "contrasting element") between the antecedent and the host sentence of *yě* and all the other constituents between the two parts are identical.

As we already saw in (5), the contrasting elements in Mandarin can be expressed by any constituent in the sentence, for instance, the subject in (13), the object in (14) and the temporal adverb in (15). These sentences also illustrate a restriction on the number of contrasting constituents, which is often mentioned in the literature, i.e., the so-called "one-distinction" requirement of *too* (Green 1968, Kaplan 1984). This one-distinction requirement stipulates that when *too* is used in the host sentence, the constituents of its antecedent and the host sentence can only have one difference. It can be illustrated by (16):

(16)*Jo had fish and Mo had soup too.
     (cf. Kaplan 1984: 510)

Both the subject and the object of the two conjuncts are different in (16), making the use of *too* infelicitous.

It is not difficult to find evidence from Mandarin to support the one-distinction requirement. Consider (17):

(17)*Zhāng Sān   chī zhūròu,   Lǐ Sì   yě   chī   qīngcài.
      Zhang San   eat pork   Li Si   YE   eat   vegetable
      'Zhang San eats pork and Li Si also eats vegetable.'

The antecedent and the host sentence of *yě* in (17) have different subjects and objects. The so-called one-distinction requirement is broken, and (17) is incorrect, as expected. However, this requirement is not a necessary condition to license *yě*. Consider the following Mandarin examples from Liu (2009: 25):

(18) *Zhāng Sān   chī-le   yú,*
     Zhang San   eat-PERF fish
     Lǐ Sì   yě   hē-le   tāng.
     Li Si   YE   drink-PERF   soup.
     'Zhang San ate fish, and Li Si also had soup.'

(19) *Zhāng Sān   zuótiān   zài-jiā   chī-le   yú,*
     Zhang San   yesterday at-home   eat-PERF   fish
     Lǐ Sì   jīntiān   zài-fàndiàn   yě   chī-le   yú.
     Li Si   today   at-restaurant YE   eat-PERF fish
     'Zhang San ate fish at home yesterday and Li Si also ate fish at a restaurant today.'

In (18), the contrasting constituents involve the subjects and the predicates of the two adjacent clauses and in (19), as many as three syntactic categories in

the two sentences are different, namely, the subject, the time adverb and the locative adverbial.[11] (18) and (19) challenge the so-called 'one-distinction' requirement, and also make the treatment of *yě* as a mere "presupposition trigger" problematic. For instance, in (18), in line with the alternative semantics and presupposition treatment, the use of additive *yě* in the host sentence presupposes that 'Someone different from Lǐ Sì ate soup.' or 'Lǐ Sì ate something else besides soup.' However, the current antecedent cannot satisfy its presupposition, yet (18) is a good sentence. (18) and (19) demonstrate that lexical identity and its relevant "one-distinction" requirement cannot cover all cases where additive *yě* is licensed. Furthermore, this means that we also need an alternative explanation for why sentences like (17) are ruled out. To this end, in 2.4, I will discuss other factors at play which determine the use of additive particles.

It is noteworthy that the antecedent that verifies the presupposition of the additive particle in fact does not have to be explicitly asserted (Winterstein 2009:324). This is in line with Kripke (2009: 372-373), who argues that the antecedent can consist of certain parallel information that is either "in another clause" or in the "active context".

In light of this, we may argue that in Mandarin, to meet the presupposition requirement, the host sentence of additive particles mandatorily requires a **verifiable antecedent** instead of an explicit antecedent. The antecedent of additive *yě* can be seen as verifiable if the non-asserted part, e.g., either presupposition, conventional or conversational implicature of the preceding sentence can satisfy the presupposition of *yě*. Consider (20) and (21):

(20) *Zhāng Sān*   *hěn hòuhuǐ*   *méi qù,*
     Zhang San   very regret   not go
     Lǐ Sì   *yě*   *méi qù.*
     Li Si   YE   not go
     'Zhang San regrets that he did not go. Li Si did not go either.

(21) *Zhāng Sān*   *yǒu*   *yí-ge*   *nǚér,*
     Zhang San   have   one-CL   daughter,
     Lǐ Sì   *yě*   *zhǐ*   *yǒu yí-ge*   *háizi.*
     Li Si   also   only   have one-CL   child
     'Zhang San has one daughter. Li Si has only one child too.' (= (9))

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[11] This feature is not a unique characteristic of Mandarin. The Mandarin sentences here can be reproduced in Dutch as well (and probably other languages too); here is (19) in Dutch: *Jan heeft gisteren thuis vis gegeten en ik heb vandaag in de kantine ook vis gegeten.*

The presupposed proposition of the host sentence of *yě* in (20) is that someone different from *Lǐ Sì* did not go there. The presupposition of the antecedent sentence is that *Zhāng Sān* did not go there, which satisfies the presupposition of the host sentence. The host sentence of *yě* in (21) presupposes that there is someone else who only has one child.[12] The antecedent conversationally implicates that *Zhāng Sān* only has one daughter and no other child. So, the presupposition requirement of *yě* is met. From these two examples, we can conclude that the antecedent of the host sentence of *yě* does not have to be explicitly asserted to meet the need of the presupposition.

Now we can account for the infelicity of (8) by arguing that there is no antecedent or accessible context for the verification of its presupposition.

(22) *Sam is having dinner in New York tonight, too.
    (= (8) from Kripke 2009: 373)

Indeed, as pointed out by Kripke, as long as the well-known fact that many people are having dinner in New York is mentioned, we can also get an "active context" to license the additive particle, as illustrated by (23):

(23) Like many others, Sam is having dinner in New York too.

Therefore, a verifiable antecedent in the preceding discourse, to which an additive particle can refer, is more important than lexical similarity. This is not surprising if we treat additive particles as anaphoric elements, which are claimed to inform the listener or the reader "how discourse is constructed and maintained" (Botley and McEnery 2000: 3). In the following section, I will argue that similarity in discourse, more specifically, identical argumentative orientation between the antecedent and the host sentence, is the fundamental element for a suitable antecedent of the additive particle *yě*.

2.4 Additive *yě* and discourse similarity

The contextual or discourse function of additive particles has been discussed in the literature. Kaplan (1984: 516) claims that the licensing of *too* stems from its discourse function, which is to "emphasize the similarity between contrasting constituents". By using *too*, it is not the contrast between the

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[12] It should be noted that the antecedent sentence itself in (21) does not necessarily presuppose that Zhāng Sān only has one child. I will return to this issue in section 2.4.4 below.

contrasting items but the unexpected similarity that is being emphasized. Following Kaplan's idea, our earlier discussion that the "one-distinction" requirement cannot be maintained is thus reasonable, since the discourse similarity is more crucial. Zeevat (2004) also stresses the contextual or discourse role of additive particles and assumes focus particles as markers of a relation between the host sentence and the context. For instance, the relation marked by additive particles such as *too, also, ook* and *auch* is stated as follows:

(24) The topic has been addressed before but the content gives an expansion of the earlier answer.
(Zeevat 2004: 178)

Zeevat (2004: 192) also argues that these particles have a role in marking speech acts**,** namely, the aim of the speaker of using *too* is to "bind an old topic question to a new value that is obtained by adding the value specified in the sentence to the old value." In light of these analyses, we may assume that if an antecedent is similar to the host sentence of additive particles at the discourse level, the use of *yě* is possible. However, one may still ask: what exactly is "similarity" at the discourse level?

2.4.1 A remark on Winterstein (2009)

Winterstein (2009: 331) borrows the term "argumentation" from Anscombre and Ducrot (1983) and Merin (1999) to elaborate on the notion "discourse similarity". Two properties of argumentation are proposed by Winterstein and are used to judge whether the two utterances are similar or not. In this dissertation, I argue that only the first property is the crucial discourse condition of licensing additive *yě*. In the following section, I will first demonstrate Winterstein's two properties using Mandarin data and then present arguments that refute the second property of argumentation.

The first property is about argumentative orientation. According to Winterstein, the argumentation is oriented, i.e., it can be positive or negative relative to the argumentative goal. Only if the two utterances have the same argumentative orientation to the discourse goal, the use of the additive particle can be licensed. It can be used to provide an account for the infelicity of the following Mandarin sentences:

(25) a.*Zhāng Sān hé Lǐ Sì kǎo-de zěnmeyàng?*
Zhang San and Li Si test-DE how
'How did Zhang San and Li Si do in the test?'

b*_Zhāng Sān_   _méi_   _zuò-wán_   _suǒyǒu_   _tí,_
  Zhang San   not   do-finish all   question
  _Lǐ Sì_   _yě_   _zuò-le_   _yìxiē_   _tí._
  Li Si   YE   do-PERF   some   question
  'Zhang San did not answer all the questions, Li Si also answered some
  questions.'
  (cf. Winterstein 2009: 328)

Although the proposition expressed by the host sentence of _yě_ in (25b) is truth-conditionally similar to its counterpart in the antecedent, it differs in polarity regarding the argumentative orientation. The first clause is a negative comment about Zhāng Sān's performance in the exam while the second is positive regarding Lǐ Sì. Therefore, the infelicity of (25b) shows that the similar argumentative orientation between the antecedent and the host sentence, regardless of the truth conditions, is a necessary licensing condition for additive particles.

    According to Winterstein, the second property is that the discourse similarity is a gradable quantity rather than a Boolean value, i.e., the "argumentative force" of the two utterances in the host and the antecedent of _too_ should not be too "distant" on the argumentative scale relative to a particular goal. Consider (26):

(26) a. _Zhāng Sān_   _hé_   _Lǐ Sì_   _kǎo-de_   _zěnmeyàng?_
    Zhang San   and   Li Si   test-DE   how
    'How did Zhang San and Li Si do in the test?'

   b. _Zhāng Sān_   _zuò-wán-le_   _suǒyǒu_   _tí,_
    Zhang San   do-finish-PERF   all   question
    _Lǐ Sì_   _yě_   _zuò-wán-le_   _dàbùfen_   _tí._
    Li Si   YE   do-finish-PERF most   question
    'Zhang San answered all the questions, and Li Si also answered most
    of the questions.'

   c. *_Zhāng Sān_   _zuò-wán-le_   _suǒyǒu_   _tí,_
    Zhang San   do-finish-PERF   all   question
    _Lǐ Sì_   _yě_   _zuò-wán -le_   _yìxie_   _tí._
    Li Si   YE   do-finish-PERF   some   question
    'Zhang San answered all the questions, and Li Si also answered some
    of the questions.'

Winterstein argues that quantifiers can form argumentative scales such as <all, most, some, a bit> (cf. Horn 1972, 1989). The felicity of (26b) and the

infelicity of (26c) should be ascribed to the "distance" between the two conjuncts with these quantifiers. It seems true by looking at (26). However, (26c) turns felicitous in a context like this: Lǐ Sì is a student who is always bad at exams, so if he solved a few problems in this exam, it could be taken as a good result for him. So, in this context, the two parts of (26c) both give a positive answer to the question of (26a). In this context, sentence (26c) is correct. Similarly, we can also find situations in which (26b) could be an infelicitous answer, for instance, Lǐ Sì is a genius who always performs better than Zhāng Sān in all exams. So, in case that Zhāng Sān answered all the questions, it could not be seen as a pleasant result for Lǐ Sì that he answered only the majority of the questions. Therefore, what matters for a good antecedent of additive *yě* is not the distance of the scalar implicature between it and the host sentence, but rather it is still the argumentative orientation relative to the argumentative goal of the speaker. Meanwhile, the use of additive *yě* can enforce the same argumentative orientation, whether the host sentence and the antecedent share lexically identical elements or not.

Following the discourse similarity approach, the bad sentence (27) (previously as (10)) can be accounted for.

(27)*Lǐ Sì   zhǐ   yǒu yí-ge   háizi,*
Li Si   only   have one-CL   child
Zhāng Sān   yě yǒu   yí-ge   nǚér.
Zhang San   YE have   one-CL   daughter
'Li Si has only one child, Zhang San has one daughter too.

The infelicity of (27) can be attributed to the violation of the requirement of argumentative similarity due to the use of *zhǐ* 'only' in the antecedent. According to Anscombre and Ducrot (1983), the adverb 'only', similar to negation, reverts to the argumentative orientation of the sentence. Therefore, it is simply not possible for the antecedent in (27) to have the same argumentative orientation with the host sentence. The argumentative parallelism between the host sentence and the antecedent required by additive *yě* cannot be satisfied.

After establishing that similar argumentative orientation is the crucial factor to licensing the use of additive *yě,* we can now provide a different account for the cases concerning the (apparent violation of) the "one-distinction" requirement.

2.4.2 A new account for the "one-distinction" requirement

Now we can go back to sentence (17) which is reproduced here as (28):

(28) *Zhāng Sān   chī zhūròu, Lǐ Sì yě   chī qīngcài.
     Zhang San   eat pork Li Si YE   eat   vegetable
     'Zhang San eats pork and Li Si also eats vegetable.'

Earlier, following previous accounts, I argued that this sentence is incorrect because of the one distinction requirement, but, as we have seen, this explanation does not suffice when explaining the behavior of additive particles like *yě*. Now, however, we can provide a new account: the infelicity of (28) stems from the difficulty to synchronize the argumentative orientation between the two clauses in (28) in any context. If the argumentative orientation of the two clauses can be determined and is directed towards the same argumentative goal, *yě* can in fact be licensed. For instance, suppose that the meat-lover Zhāng Sān and the vegetarian Lǐ Sì are required to eat something before they attend a sport match. One may want to confirm this by asking "Did Zhāng Sān and Lǐ Sì have something to eat?". Then a possible answer can be:

(29) *Zhāng Sān   chī-le   zhūròu,   Lǐ Sì yě chī-le   qīngcài.
     Zhang San   eat-PERF pork   Li Si YE eat-PERF vegetable
     'Zhang San ate some pork and Li Si also ate some vegetable.'

Thus (28) can be rescued by providing a specific context in which the two clauses share the same argumentative orientation.[13] Note that (29) is different from (28) in that the perfective aspect *le* has been added after the verb in both clauses of (29). By using *le* in both clauses in (29), both events are marked as having been completed. In the discourse of (29), it means that the argumentative goal "have eaten something" has been reached for both Zhāng Sān and Lǐ Sì. We have more clues to argue that both propositions can be regarded as having a positive orientation towards the argumentative goal. Therefore, in contrast to (28), the use of additive *yě* is legitimate in (29). The same reasoning applies to (18) and (19), here reproduced as (30) and (31).

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[13]As is pointed out by Jenny Doetjes, there seems to be a discrepancy between (29) and its English translation, i.e., the English sentence can only make sense if it means that in addition to pork, Lǐ Sì also eat vegetable.

(30) *Zhāng Sān   chī-le   yú,*
    Zhang San   eat-PERF   fish
    Lǐ Sì   yě   hē-le   tāng.
    Li Si   YE   drink-PERF   soup.
    'Zhang San ate fish, and Li Si also had soup.'

(31) *Zhāng Sān   zuótiān   zài-jiā   chī-le   yú,*
    Zhang San   yesterday   at-home   eat-PERF fish
    Lǐ Sì   jīntiān   zài-fàndiàn   yě   chī-le   yú.
    Li Si   today   at-restaurant   YE   eat-PERF fish
    'Zhang San ate fish at home yesterday and Li Si also ate fish at a restaurant today.'

Consider (31) first. The two clauses in (31) share the same predicate. Though it violates the "one-distinction" requirement, *yě* can be used to express that the proposition in the host sentence has the same argumentative goal as its antecedent, that is, both of them ate fish. In fact, in order to guarantee that the two parts reach the same discourse goal, the additive particle is all the more necessary. According to Kaplan (1984), the more prominent the contrast between the host sentence and the antecedent, the more important it is to stress the discourse similarity between the two parts by adding an additive particle. When there are more than one contrasting pairs between the host sentence and its antecedent, it is more necessary to emphasize the similarity. It can be reflected by the intonational pattern of the sentences, as is observed by Liu (2009: 26): the accent in (30) falls on the additive particle itself instead of the contrasting elements, simply because that is the only identical element that the two clauses share.

2.4.3 *Yě…yě…* construction

Interestingly, we can add another *yě* in the first clause of (30) without changing the meaning. This special *yě…yě…* construction is referred to by Chao (1968) as one type of "correlative conjunction".[14] Consider (32) adapted from (30) and (33) from Biq (1989).

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[14] It is easy to relate the *yě...yě...* construction to the English coordinate structure *both…and…*. Yet I will not argue that the two patterns are each other's equivalent. Firstly, not all *yě...yě...* can be translated into an English sentence using *both…and…* (consider (32)). In addition, unlike the *both…and…* structure, we can have more than two conjunctions in a sentence with *yě...yě...* (see (34)). More importantly, it has been pointed out that the two conjuncts in *both…and…* structures are asymmetric (e.g., de Vries 2005). In contrast, I argue that the members in the *yě...yě...* construction are parallel structures and are on an equal level.

(32) *Zhāng Sān   yě   chī-le   yú,*
     Zhang San   YE   eat-PERF   fish
     Lǐ Sì   yě   hē-le   tāng.
     Li Si   YE   drink-PERF   soup.
     'Zhang San ate the fish, and Li Si also had the soup.'

(33) *Wǎn yě xǐ-le,   zhuōzi yě cā-le,*
     bowl YE wash-PERF   table   YE wipe-PERF
     hái yǒu   shénme   méi   zuò de?
     still have   what   not   do   DE
     'The dishes are washed; the table is wiped, too. What else is there to do?'
     (Biq 1989: 4)

As noted by Biq (1989: 4), the two members in sentences like (32) or (33) are ordered as equals. The order between the two clauses is free. As a contrast, the relation between the two clauses coordinated by one *also* is asymmetric. Previously we also saw Mandarin examples (as in (9)) in which the sequence between the clauses cannot be switched and claimed that it is due to the anaphoric nature of additive particles. Plus, it is also hard to explain why *yě* can appear in the first clause without an antecedent at all. Moreover, as an anaphoric element, *yě* cannot refer to something which occurs after its host sentence. Thus, the anaphoric treatment of additive particles seems to encounter a challenge due to Mandarin sentences like (32) and (33). However, our discourse approach works here again. In line with Chao who termed this structure as a "correlative conjunction", we may call *yě* in (32) and (33) a correlative marker. It marks the "discourse relation" between the two clauses (cf. Zeevat 2004). Following our analysis, they mark the same argumentative orientation relative to the discourse goal. The discourse or argumentative goal is clear from the context and can be referred to by both clauses of the *yě...yě...* construction. The active context can thus satisfy the antecedent requirement of the additive *yě* in both clauses. Since the argumentative similarity is identifiable at the level of discourse, which can be derived from the preceding discourse, the order between the two conjuncts in (32) and (33) is not important. It can also account for why additive *yě* can show up in the first clause without any antecedent. Indeed, we can have more than two members connected to *yě*, as long as they all share the same argumentative orientation, as is shown in (34).[15]

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[15] Note that (34) can be perfectly transalted into a Dutch sentence with the *en...en...*

(34) *Nǐmen   yí-ge   fàn gāngzi, yě chéng   fàn,   yě*
     you   one-CL   rice mug   YE hold   rice   YE
chéng   cài,   yě xǐ   liǎn, yě xǐ   jiǎo,
hold   dish   YE wash   face   YE wash   feet
yě   hē   shuǐ,   yě niào-pāo,
YE   drink   water   also pee
nà   shì jiǎng-wèishēng   ma?
that   is   stress-hygiene   SFP
'You guys use this rice mug for holding rice, holding dishes, washing face, washing feet, drinking water and also as a urinal. How can you say that you pay attention to the hygiene?'
(Hou 1998: 617)

To sum up, I have argued that additive *yě* functions as a correlative marker that marks the similarity in argumentative orientation between the host sentence and its antecedent. Due to its anaphoric nature, the licensing of *yě* always requires a verifiable antecedent (it can be an active context too) that shares the same argumentative orientation as the host sentence. When there are lexically identical constituents between the two clauses, this "similarity" relation is explicit and only one *yě* in the second conjunct clause is necessary (or we may assume that there is also a non-overt *yě* in the antecedent);[16] However, when there is no identical element, it is possible, at least in Mandarin, to have this marker in both clauses to mark and enforce the similarity reading between two clauses (I will further elaborate on this point when discussing Krifka's Contrastive Topic Hypothesis in 2.7). An important finding has been, that the discourse conditions, viz., similarity in argumentative orientation, is a more fundamental condition to license the use of additive *yě* than similarity at the lexical level. Moreover, due to its discourse-anaphoric nature, it seems that the use of *yě* in the host sentence can exert an effect on its antecedent, for instance, to disambiguate the interpretation of the antecedent. I will present some examples to illustrate this point in the following section.

pattern, as shown below (translation by Jenny Doetjes):

Jullie gebruiken deze rijstkom EN voor rijst, EN voor andere gerechten, EN om je gezicht of voeten te wassen, EN om water uit te drinken EN om in te plassen. Hoe kan dan je zeggen dat je aandacht besteed aan hygiëne?

[16] This hypothesis calls to mind Krifka's (1999) assumption that there is a non-overt affirmative element "AFF$_F$" in the antecedent, which contrasts with the overt additive particle in the second clause.

2.4.4 Confirmation effect of additive *yě* on its antecedent

Earlier on, we have seen examples showing that the presupposition of additive particles is not always explicitly identified in the antecedent. Due to this fact, the interpretation of the antecedent can sometimes be ambiguous. The following Mandarin sentences illustrate this point well:

(35) A: *Tīngshuō   nǐ   shǔjià   qù-le   Rìběn.*
    Hear.of   you   summer.vacation   go-PERF   Japan
    'I heard that you went to Japan during summer vacation.'

    B: *Wǒ   yě   qù-le   Táiwān.*
    I   YE   go-PERF   Taiwan
    'I went to Taiwan as well.'

The antecedent of the host sentence of *yě* is expressed by speaker A with a hearsay marker *tīngshuō* (literally 'hear-say'). Hearsay evidentiality is often linked to epistemic modality (Palmer 1986: 51; Frajzyngier 1985, 1987). The hearsay adverb in (35A) indicates the speaker's commitment to the truth of this proposition expressed by (35A) is weaker than the sentence without it. Therefore, (35A) provides two possible alternatives with different argumentative orientation, i.e., positive and negative, as the antecedent of the host sentence in (35B). However, the use of additive *yě* in the host sentence (35B) forces the selection of the positive proposition due to the same argumentative orientation requirement and consequently cancels the negative proposition. The confirmation effect of additive *yě* is illustrated in (36):

(36) Confirmation effect of additive *yě*
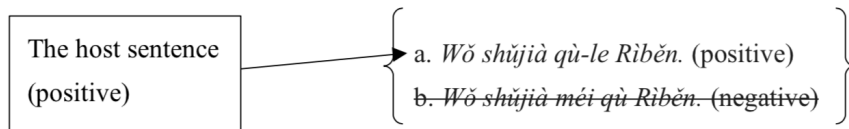
That is why even though (35B) is not a direct confirmation to speaker A whether speaker B has been to Japan or not, by articulating a sentence with *yě*, pragmatically, (35B) implies that what A heard from others is true, that is, B did go to Japan. If B gives an answer without *yě,* it is still a good answer in that context but with a very different implicature, as in (37).

(37) A: *Tīngshuō   nǐ   shǔjià   qù-le   Rìběn.*
      hear.of   you   summer.vacation   go-PERF Japan
      'I heard that you went to Japan during summer vacation.'

   B: *Wǒ   qù-le   Táiwān*
      I   go-PERF   Taiwan
      'I went to Taiwan.'

The accented *TAIWAN* forms a contrastive relation with its corresponding
element in (37A) and results in the exclusive implicature that Taiwan is the
only place that "I" went to this summer. (37B) amounts to select the
proposition with the negative argumentative orientation expressed in (37A).

   Another observation provides additional evidence of the confirmation
effect that the additive *yě* may sometimes have: due to the discourse role of
the additive particle, the host sentence of *yě* helps to confirm or "complete"
the antecedent clause. This has been demonstrated by (21), here repeated as
(38):

(38) *Zhāng Sān   yǒu   yí-ge   nǚér,*
      Zhang San   have   one-CL   daughter,
      Lǐ Sì   yě   zhǐ   yǒu yí-ge   háizi.
      Li Si   also only   have one-CL   child
      'Zhang San has one daughter. Li Si has only one child too.'

Without the following clause with *yě*, the clause in the antecedent *Zhāng Sān
yǒu yí-ge nǚér* 'Zhang San has one daughter' may have two interpretations, as
is shown in (39):

(39) a. Zhang San has one daughter and also other children.
      b. Zhang San has only one daughter and no other children.

(39a) is an inclusive reading while (39b) is an exclusive reading. Similar to
the reasoning illustrated in (36), the host sentence of *yě* in (38) can select the
exclusive reading in (39b) and thus (39a) is canceled. That is how we can
interpret the antecedent in (38) as "all Zhāng Sān has is one daughter" even
without the word *zhǐ* 'only' in this sentence.

   Sentence (40) provides another example: *yě* contributes to
"completeness" of the antecedent sentence lacking an aspect particle.
Consider (40):

(40) a. *Zhāng Sān   bǎ   huā   bǎi   zài-zhuōzi-shang,*
    Zhang San   BA   flower   put   on-table-top
    Lǐ Sì   yě   bǎi   le.
    Li Si   YE   put   SFP
    'Zhang San has put flowers on the table, so has Li Si.'

    b. *Zhāng Sān   bǎ   huā   bǎi   zài-zhuōzi-shang,*
    Zhang San   BA   flower   put   on-table-top
    Lǐ Sì   yě   zài   bǎi.
    Li Si   YE   PROG   put
    'Zhang San is putting flowers on the table, so is Li Si.'

    c.**Zhāng Sān   bǎ   huā   bǎi zài-zhuōzi-shang,*
    Zhang San   BA   flower   put on-table-top
    Lǐ Sì   què   méi bǎi.
    Li Si   in.contrast   not put

Lacking an aspect particle, the first clause in all sentences of (40) is aspectually underspecified, as it denotes at least the following two readings:[17]

(41) a. *Zhāng Sān   bǎ   huā   bǎi-zài-le   zhuōzi-shang.*
    Zhang San   BA   flower   put-on-PERF   table-top
    'Zhang San has put flowers on the table.'

    b. *Zhāng Sān   zài   bǎ   huā   bǎi-zài   zhuōzi-shang.*
    Zhang San   PROG   BA   flower   put-on   table-top
    'Zhang San is putting flowers on the table.'

In (41), the aspect particles have been added which are missing in (40). What explains the difference between (40a) and (40b) on the one hand and (40c) on the other? Note that in (40a) and (40b) the first clause has the same aspectual reading as that in the follow-up sentence, the host sentence of *yě*. What happens here is similar to what happened in (35) and (38). Namely, due to its function in synchronizing the argumentative orientation, the use of additive *yě* in the second clause of (40a) and (40b) confirms the interpretation of the first

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[17] Without the follow-up sentence, the first clause would be ungrammatical (in any case, "incomplete"), but that is not of relevance to the discussion in the main text. For discussion, see Tsai (2008), Sybesma (2020).

clause by projecting the aspect of the second clause into the first one. [18](40c) contrasts with (40a) and (40b) in this respect. The two parts in (40c) are conjoined by the adverb *què* 'in contrast' rather than the additive *yě*. The second clause in (40c) is grammatical; it contains the negative perfective auxiliary verb *méi*. However, without *yě*, the perfective reading of the second clause in (40c) cannot help to disambiguate the first part. This contrast shows that additive *yě* can affect the interpretation of the antecedent by forcing its antecedent to partially share the meaning of the host sentence.

In this section, I have presented three examples to illustrate the confirmation effect of additive *yě*. I have argued that this effect should be attributed to the discourse role that an additive particle has. Namely, the additive particle, by its anaphoric nature, always requires an antecedent that shares the same argumentative orientation with the host sentence and enforces this interpretation when the interpretation of the antecedent is ambiguous. So far, we have established the argument that additive *yě* is an anaphoric element with a discourse role and discussed the conditions of a viable antecedent for it.

Meanwhile, as a focus particle, additive *yě* is closely related to the focus constituent in the host sentence. In the following section, I will discuss in detail how additive *yě* interacts with other constituents in the host sentence.

2.5 Stressed and unstressed additive *yě*

In this section, I discuss the relation between additive particles and their associated/focus constituents. In line with Reis and Rosengren (1997: 241), the associated constituent of additive adverbs like German *auch* and Chinese *yě* is called an "added constituent" (AC): it is the "variable material" or the

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[18] Interestingly, the confirmation or amelioration effect on aspect seems to be restricted to clauses that together make up a compound sentence, like those in (40a) and (40b). For instance, the cross-clausal salvaging effect disappears if the clauses in question are clearly two different sentences, as is clear from the following conversation (provided by Huba Bartos, p.c.):

A: *Zhāng Sān bǎ   huā   bǎi   zài-zhuōzi-shang.*
   Zhang San BA   flower   put   on-table-top
Intended: 'Zhang San is putting flowers on the table.'

B: (En, zhīdao),   *Lǐ Sì yě   zài   bǎi.*
   um know   Li Si YE   PROG   put
   '(Yup, I know,) Li Si is doing so, too.'

new element(s) in the host sentence of the additive particle compared with the antecedent alternative propositions. The other elements in the host sentence of the additive particle are identical to the corresponding elements in the antecedent sentence and are thus called "identical material" (ID).[19] It is a well-known fact that in many languages there are two orders between additive particles and ACs, that is to say, the AC can occur after the additive particle ("ADD AC" order) and the AC can occur before the additive particle ("AC ADD" order). Along with this observation, it has been noticed that prosodic features are also involved: the additive particle is often unstressed in the "ADD AC" order and stressed in the "AC ADD" order (Reis and Rosengren 1997; Krifka 1999; Gast 2006, a.o.). In light of the two orders and the stress factor, a following question will be whether the additive particles in the two orders have the same interpretation. In this section, I will first introduce the "ADD AC" order with an unstressed additive particle and investigate how the relation is established. Then I will discuss the "AC ADD" with a stressed additive particle and Krifka's (1999) Contrastive Topic Hypothesis. Finally, I put forth the argument that stressed *yě* and unstressed *yě* basically have the same meaning and function in line with Umbach (2012). Before entering the discussion on *yě*, I will outline the two orders in German as discussed by Reis and Rosengren (1997).

2.5.1 Two orders between an additive and the AC

At first glance, the distribution of additive particles and the ACs varies in different languages and it seems that there is no universal regularity at all. In some languages, there is more than one additive particle. For instance, French additive particle cannot be placed before its AC. The additive particle in Czech and Hebrew can occur either before or after the AC with a different stress pattern. The additive particle in Swahili only occurs in a sentence-final position and is always stressed (Krifka 1999: 112). Mandarin only has one, pre-verbal, additive particle, *yě*. In English, at least three corresponding elements are often discussed: *also*, *too* and *as well*. Among them, *also* predominantly takes up a central position in the clause while *too* and *as well* primarily appear in sentence final position (Quirk et al. 1985: 609-610; Huddleston and Pullum 2002: 592-595; Gast 2006). What complicates matters is that some languages feature both stressed and unstressed additive particles, such as German, Dutch and Mandarin. As Gast (2006) remarks, in some

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[19] As discussed earlier, not all host sentences of additive *yě* have IDs, especially in the *yě...yě* sentences. For discussion purposes, the examples in this section are mostly sentences with ID constituent.

European languages, additive particles are usually unstressed when they precede the AC constituent while they bear stress when they follow it.

The case of German *auch* has been discussed extensively (Reis and Rosengren 1997; Krifka 1999; Dimroth 2002; Umbach 2012). In German, the unstressed additive particle *auch* can only occur to the left of its AC, regardless of the syntactic position of the AC in the clause. For instance, *auch* can appear to the left of an AC, which functions as the subject of a sentence. Consider the following example from Reis and Rosengren (1997):

(42) *Auch* [*Peter*]_{AC} *hat das Buch   gelesen. (nicht nur PAUL)* [20]
    also Peter   has the book   read   not   only Paul
    'Peter, too, has read the book.'   (not only Paul)
    (Reis and Rosengren: 241)

In most cases, the AC bearing the stress occurs to the right of *auch* as is shown in (42); it is ungrammatical the other way around. See (43).

(43)* [*PEter*]_{AC}   *(auch)   hat (auch)   das Buch   gelesen.*
    Peter   also   has also   the book   read
    (Reis and Rosengren 1997: 241)

Conversely, stressed *AUCH* typically follows its AC, and has the ID materials to its right, as is shown by (44), in which "Peter" is the AC. And if the AC is "das Buch", then the sentence becomes infelicitous, as is demonstrated in (45).

(44) [*Peter*]_{AC} *hat   AUCH   das Buch   sofort   gelesen.*
    Peter   has auch   the book   immediately read
    'Peter read the book immediately too.'

(45)* *Peter   hat AUCH   *[*das Buch*]_{AC}   *sofort   gelesen.*
    Peter   has aslo   the book   immediately read
    (Reis and Rosengren 1997: 241)

According to Reis and Rosengren's observations, German stressed and unstressed additive particles are in complementary distribution with respect to their position relative to the AC/ID materials. They propose a simple regularity:

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[20] In this section, I shall use [...]_{AC} to mark the AC. When I want to emphasize that the AC is the focus or "contrastive topic" (CT) of the sentence, you will also see the notation [...]_F or [...]_{CT}.

(46) The last element in the *Auch*/AC pair must carry the nuclear accent, the first element may carry a secondary accent.[21]
(Reis and Rosengren 1997: 243)

From (46), it seems that the stress on an additive particle is merely a consequence of the distribution order between the additive particle and the AC, i.e., linearly the second member of the {AC, ADD} pair has the stress.

If the ID materials are also included, we can get the following combination patterns:

(47) a. (ID) *auch* (ID) AC^{stressed} (ID)
　　b. (ID) AC 　(ID) *AUCH*　(ID)
(Reis and Rosengren 1997: 244)

From the regularity displayed in (46) and (47), we can see that:

1)the position of AC is placed at exactly the opposite direction in the sentences of unstressed *auch* and stressed *AUCH*, i.e., to the right of the former and to the left of the latter.

2) there is no AC material bearing the stress to the left of *auch* and to the right of *AUCH*. In Reis and Rosengren's words, "*AUCH* requires that AC is (totally) to its left, ruling out a further accent to its right" (Reis and Rosengren 1997: 248). In other words, to the right of stressed *AUCH* there is only ID.

Another relevant phenomenon concerning the interaction between additive (or all focus) particles and their AC is the positional **adjacency** between them. This tendency is quite clear in German and Dutch (for Dutch examples, see Bergsma 2006: 331), especially in the case of unstressed additive particles. Have a look at the German sentences in (48) in which *auch* has its AC right-adjacent and it can appear in different syntactic positions in its host sentence.[22]

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[21] Considering the fact that sometimes we may have a split AC, namely, one part of AC being to the right of *auch* and the other part being to the left, as pointed out by Reis and Rosengren, the regularity in (46) and (47) only pertains to *auch* in relation to the AC constituent bearing the nuclear accent.

[22] According to Reis and Rosengren (1997: 242), there are also cases of optional non-adjacency in spoken German. However, these sentences seem to be degraded.

(48) a. *Auch*   [*Peter*]_{AC} *hat   das   Buch   gelesen.(nicht   nur   PAUL)*
       also   Peter   has   the   book   read   not   only   Paul
       Peter, too, has read the book. (not only Paul)

   b. *Peter   hat   das   Buch   auch   [geLEsen*]_{AC}.
       Peter   has   the   book   also   read
       (nicht   nur   geKAUFT)
       not   only   bought
       Peter has also read the book. (not only bought it)

   c. *Peter   hat   auch   [das BUCH*]_{AC} *gelesen.*
       Peter   has   also   the   book   read
       (nicht   nur   die   ResenSION)
       not   only   the   review
        Peter has also read the book.   (not only the review)

   d. *Peter   hat   auch   [dem Paul ein   BUCH   gekauft*]_{AC}.
       Peter   has   also   for Paul a   book   bought
       (nicht   nur   dir   das   Essen   bezahlt)
       not   only   you   the   meal   treat
       Peter also bought a book for Paul. (not only treated you to the meal)
       (Reis and Rosengren 1997: 241)

According to Reis and Rosengren, in contrast with its unstressed counterpart, the stressed *AUCH* allows non-adjacency between the proposed AC and *AUCH*. Consider (49),

(49) *Peter   hat   das   Buch   AUCH   sofort   gelesen.*
     Peter   has   the   book   also   immediately   read
     'Peter also read the book immediately.'
     (Reis and Rosengren 1997: 242)

In the following section, I am going to investigate whether the distributional regularity of AC/ID and the additive particles found in German applies to Mandarin as well. Due to the fact that Mandarin *yě* is distributionally more limited than *auch*, it would seem unlikely that the phenomenon of the adjacency between the additive particle and the AC observed from German and Dutch is there in Mandarin as well. In addition, I will discuss whether it is necessary to separate stressed *yě* from unstressed *yě*.

2.5.2 Mandarin unstressed *yě* and its AC

Clear examples in German show that the unstressed additive particle is usually left-adjacent to the AC that it is associated with and can occupy different positions in the sentence. Meanwhile, as the focus, the AC usually bears the accent. Different from German, Mandarin additive particle *yě* is distributionally more restricted. Its syntactic position will be explored in the following chapter. Simply put (for details, see Chapter 4), Mandarin *yě* can never occur before the subject or after the verb. The following sentences show how *yě* interacts with the AC/focus and the AC/ID pattern is spelled out.

50. a. *Zhāng Sān   mǎi-le   yì-zhāng huà,*
       Zhang San   buy-PERF   one-CL   picture,
       *yě   mǎi-le   [yì-běn SHU]*_F
       YE   buy-PERF   one-CL book
       'Shang San bought a picture, and he also bought a book.'
       (ID) *yě* ID [AC]_F

     b.* *Zhāng Sān   mǎi-le   yì-zhāng huà,*
       Zhang San buy-PERF   one-CL picture,
       *mǎi-le   yě   [yì-běn SHU]*_F.
       buy-PERF   YE   one-CL book

51. *Zhāng Sān mài-le   yì-běn shū,*
     Zhang San sell-PERF   one-CL book,
     *yě   [MAI]*_F *-le   yì-běn shū.*
     also   buy-PERF   one-CL book
     'Zhang San sold a book, and he also bought(new) one.'
     (ID) *yě* [AC]_F ID

52. *Zhāng   Sān hē-le   diǎnr   kāfēi,*
     Zhang   San drink-PERF   little   coffee,
     *yě [MAI-le   běn SHU]*_F.
     also buy-PERF   CL   book
     'Zhang San drank some coffee and he also bought a book.'
     (ID) *yě* [AC]_F

53. a.*Zhāng Sān   gěi   Lǐ Sì   mǎi-le   yì-běn shū,*
       Zhang San   to   Li Si   buy-PERF   one-CL book
       *yě   [gěi WANG WU]*F *mǎi-le   yì-běn*
       YE   to   Wang Wu   buy-PERF   one-CL
       'Zhang San bought a book for Li Si and also bought one for Wang Wu.'
       (ID) *yě* [AC]F ID ID

     b.* *Zhāng Sān gěi   Lǐ Sì   mǎi-le   yì-běn shū,*
        Zhang San to   Li Si   buy-PERF   one-CL book
        [*gěi   WANG WU*]F *yě   mǎi-le   yì-běn shū.* [23]
         to   Wang Wu   YE   buy-PERF   one-CL book
        *(ID) [AC]F *yě* ID ID

54. a. *Zhāng Sān   xùnsù-de   yě   [YUKUAI-de]*F
        Zhang San   fast   YE   happily
        mǎi-le   yì-běn   shū.
        buy-PERF   one-CL   book
        'Zhang San buy a book fast and happily.'
        (ID) *yě* [AC]F ID ID

     b.*Zhāng Sān   xùnsù-de, [YUKUAI-de]*F
         Zhang San   fast   happily
         yě   mǎi-le   yì-běn   shū.
         YE   buy-PERF   one-CL   book
         *(ID) [AC]F *yě* ID ID

In all sentences (50)-(54), the unstressed additive particle is followed by its AC. The pitch accent on the AC signals that it is the focus or the focused exponent of a larger constituent (Selkirk 1984, 1995). It is obvious that unstressed Mandarin *yě* can associate with different syntactic elements in the sentence.[24] Note that there is no "subject as the AC" case in (50) - (54), which

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[23] Judgments are affected by the fact that changing the stress pattern leads to a change of meaning, which is not always taken into account. For instance, (53b) is not so bad if Wang Wu is the most unlikely person (for the speaker) whom Zhang San would ever buy a book for. In the following section, I will argue that scalarity is involved in this situation.

[24] Mandarin might be different from what Jacobs (1983) and Büring and Hartmann (2011) observe, namely that German *auch* tends to adjoin to non-arguments, e.g., VPs, IPs, APs and root CPs. However, I will not discuss this.

will be discussed later, but it can already be seen from (55) that unstressed *yě* cannot have a subject AC to its right due to its syntactic restrictions:

(55)*Yě* [*Bǐdé*]~AC~ *dú-le* *zhè-běn shū.*
    YE Peter   read-PREF this-CL book
    'Peter, too, has read the book.'

Interestingly, by examining the AC/ID pattern from (50) to (54), the AC/ID pattern of Mandarin unstressed *yě* can be summarized as (56), which is basically the same as (47a) which also applies to German unstressed *auch*.

(56) (ID) *yě* [AC]~F~ (ID) (ID)

The examples presented above naturally boil down to the distributional rules of unstressed *yě*. Firstly, unstressed *yě* always has the AC to its right and the mixture of ID and AC elements can only appear to the right. Secondly, all elements to the left of unstressed *yě* are IDs. Thirdly, there might be more than one AC constituents to the right of unstressed *yě*, but the nuclear accent falls on the whole AC or one element in the scope of the AC. The data in Mandarin also supports the information structural role that Féry (2012: 423) proposes for *auch*, i.e., association-with-focus.

In this section, I have examined the distribution of unstressed *yě* and AC/ID in Mandarin and showed the similarity with the pattern displayed by German *auch*. As expected, it behaves exactly like a focus particle. The following sections will present an overview of how stressed *yě* interacts with its preceding AC and discuss the question whether stressed *yě* is a different particle from its unstressed counterpart, as Liu (2009) argues (see below).

2.5.3 Mandarin stressed *YE* and the Contrastive Topic Hypothesis

The German stressed *AUCH* has the following pattern with respect to its ID/AC distribution according to Reis and Rosengren (1997), as is repeated here in (58):

(58) (ID) AC (ID) *AUCH* (ID)

Now let's consider the case of stressed *YE* and compare it to German *AUCH*.[25]

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[25] From now on, I will use *YE* to represent stressed *yě* to distinguish it from the unstressed variant.

(59) *Zhāng Sān   mǎi-le   yī-běn shū,*
Zhang San   buy-PERF   one-CL book,
Lǐ Sì   YE   mǎi-le   yī-běn.
Li Si   YE   buy-PERF   one-CL.
'Zhang San bought a book and Li Si also bought one.

From (59), we can see that similar to German *AUCH*, stressed *YE* has its AC, *Lǐ Sì* in (59), which contrasts with the topic/subject in the antecedent, to its left and the accent is placed on the additive particle itself.

It has been argued that a stressed additive particle is associated with a contrastive topic (Krifka 1999). Krifka's hypothesis is cited here as (60).

(60) Contrastive Topic Hypothesis (CTH):
The associated constituent of a stressed postposed additive particle is the contrastive topic of the clause in which they occur.
(Krifka1999: 113)

Like other contrastive topics, the AC of the stressed additive particle often bears a rising or secondary accent. However, the secondary accent is not always there. Krifka (1999: 116) remarks that the reason that a contrastive topic need not always be marked by an accent is related to its syntactic position, i.e., it is often realized by the subject of the clause, as is illustrated in (59). Note that "topic" used by Krifka is not used in exactly the same way as it is usually used in Chinese linguistics. The following Mandarin sentences with a stressed *yě* will show that the contrastive topic can be any constituent as long as it precedes *yě/auch*:

(61) *Zhāng Sān   báitiān   kàn   shū,*
Zhang San   daytime   read   book
*tā   [wǎnshang]*CT *YE kàn   shū.*
he   evening   YE read   book
'Zhang San reads books during daytime and he does the reading in the evening too.'

(62) *Zhāng Sān   xǐhuān   kàn Měiguó   diànyǐng,*
Zhang San   like   see the U.S.   film
*[Fǎguó diànyǐng]*CT *tā YE xǐhuān.*
France film   he YE like
'Zhang San likes to watch American films, and likes French films as well.'

The AC of stressed *YE* is realized by a temporal adverb in (61) and an object in (62). Neither of them is in the subject position because there is a subject pronoun following them in both sentences. Note that the contrastive topic in (61) and (62) can also be marked intonationally such that a boundary effect can be observed, but this is not necessary. Indeed, just like in German (Krifka 1999: 117), the AC of the stressed *YE* can also be non-overt. Consider (63):

(63) A: *Zhāng Sān   xǐhuān   kàn   Měiguó   diànyǐng.*
         Zhang San   like   see   the U.S.   film
         Fǎguó   diànyǐng ne?
         France   film   SFP
         'Zhang San likes watching American films. How about French films?'

   B: [∅]$_{CT}$ *YE   xǐhuān*!
         YE   like
      'He also likes!'

In (63), there is no overt AC of the additive particle in the host sentence of *YE*. However, the additive particle still bears the stress. It can be assumed that there is a non-overt contrastive topic preceding *YE*. Krifka (1999: 118) suggests that stressed additive particles can be seen as **contrastive topic indicators**. It seems so in Mandarin too, i.e., with the aid of stressed *YE*, the contrastive topics need not always be marked by an accent as in (61) – (62) and can sometimes be non-overt, as in (63).

   The CTH provides an account for the necessity of an additive particle in the second clause. According to Krifka, contrastive topics often give rise to the "distinctiveness" implicature which requires the predicates of the topics to be different. The "distinctiveness" is defined by Krifka as below:

(64) If $[...T_F...C_F...]$ is a contrastive answer to a question Q, then there is no alternative T' of T such that the speaker is willing to assert $[...T'...C...]$. (Krifka 1999: 122)

(64) is related to the Gricean Maxim of Manner: if a speaker knows that there is an alternative T' which is also true in context C, then the speaker will utter the assertion $[...T \wedge T'...C...]$ instead of $[...T...C...] \wedge [...T'...C...]$ simply because the former is shorter. This can be illustrated by (65). Suppose that the speaker B knows that both *Zhāng Sān* and *Lǐ Sì* bought a book. To answer A's question, (65B) is good and (65B') sounds redundant due to the violation of Gricean Maxim of Manner. However, (65B') can be rescued by adding a stressed *YE* after the contrastive topic in the second clause, as in (65B'').

(65) A: *Zhāng Sān   hé   Lǐ Sì   mǎi-le   shénme?*
      Zhang San   and   Li Si   buy-PERF   what
      'What did Zhang San and Li Si buy?'

    B: *Zhāng Sān   hé   Lǐ Sì   dōu mǎi-le   yì-běn shū.*
      Zhang San   and   Li Si   both buy-PERF   one-CL book
      'Both Zhang San and Li Si bought a book.'

    B': **Zhāng Sān   mǎi-le   yì-běn   shū,*
      Zhang San   buy-PERF   one-CL   book
      Lǐ Sì   mǎi-le   yì-běn.
      Li Si   buy-PERF   one-CL
      Intended: 'Zhang San bought a book, and Li Si bought a book too.'

    B'': *Zhāng Sān mǎi-le   yì-běn   shū,*
      Zhang San buy-PERF   one-CL   book
      Lǐ Sì   YE   mǎi-le   yì-běn.
      Li Si   YE   buy-PERF   one- CL
      'Zhang San bought a book, and Li Si bought a book too.'

According to Krifka, adding an additive particle, which realizes an "affirmative" element explicitly just like *did* and *certainly*, can "allow us to get around the distinctiveness constraint" by emphasizing the discourse relation between the two clauses (Krifka 1999: 122). Krifka also assumes that there is a non-overt affirmative element as the focus in the antecedent, which contrasts with the overt additive particle in the second clause and is identified as AFF_F. For instance, the antecedent of (65B'') can be written as (66):

(66) [*Zhāng Sān*]$_{CT}$ *mǎi-le   yì-běn   shū* AFF_F .
    Zhang San   buy-PERF   one-CL   book
    'Zhang San bought a book.'

This assumption connects to my earlier claim that *yě* as a correlative marker (which can be non-overt in the antecedent) marks the similarity in argumentative orientation between the host sentence and its antecedent, for instance, it is especially obvious in the Mandarin *yě...yě...* construction, in which the first *yě* can be seen as an explicit realization of AFF_F. Our discourse analysis is in fact consistent with Krifka's claim that the function of *too* is to emphasize the "discourse relation" between the two clauses. The function of an additive particle as proposed by Krifka is essentially in line with Kaplan's claim that the discourse function of *too* is to emphasize the similarity between the two contrasting items (Kaplan 1984: 515). My statement in the previous

section that Mandarin *yě* denotes similarity of argumentative orientation can also be seen as an elaboration of the discourse function.

2.5.4 Challenges to CTH

Meanwhile, Krifka's contrastive topic hypothesis has been challenged. Reis and Rosengren (1997) and Saebo (2004) and others have pointed out that stressed additive particles are not always associated with contrastive topics. However, upon closer scrutiny, all possible counterevidence can be refuted. The first example is from Saebo (2004: 207), who finds that a topic in a sentence with *too* can be a "continuing topic" in the sense that it is not contrastive to the preceding topic in the antecedent, which is different from the "distinctiveness" required by contrastive topics. Consider sentence (67).

(67) So now you see what I meant about Lego blocks. They have more or less the same properties as those which Democritus ascribed to atoms. And that is what makes them so much fun to build with. They are first and foremost indivisible. Then they have different shapes and sizes. They are solid and impermeable. They also have 'hooks' and 'barbs' so that they can be connected to form every conceivable figure. These connections can later be broken so that new figures can be constructed from the same blocks. [. . .]　We can form things out of clay *(**too**), but clay cannot be used over and over, because it can be broken up into smaller and smaller pieces.　(Saebo 2004: 207)

"Out of clay" in the host sentence of *too* can be seen as a "continuing topic" (thus not contrasting) of "out of Lego blocks" mentioned in the first paragraph. Saebo claims that "out of clay" is not a contrastive topic simply because we cannot get the proposition that we can only form things out of Lego blocks in the first paragraph, thus no "distinctiveness" can be found. However, sentence (67) cannot be used as a counterexample to the contrastive topic hypothesis for the following reasons. English *too* predominantly takes up a sentence-final position and necessarily has its AC preceding it. Therefore, it is accented in most cases. It cannot be seen as a good candidate to discuss the variation between stressed and unstressed additive particles like German *auch*. The role of *too* in (67), unlike stressed additive particles, is more like the unstressed *also* or *auch*, which according to Reis and Rosengren (1997) denotes the meaning "in addition". It is then not surprising that the host sentence of *too* expresses a continuing topic. For instance, the sentence with *too* in (67) can be rewritten into (68):

(68) a. In addition, we can form things out of clay.
      b. We can also form things out of clay.

Two other pieces of possible counterevidence from Reis and Rosengren (1997: 249) (cf. Féry 2012: 438) and represented here in (69) and (70):

(69) *Ich   stand   vor   dem   Eingang,*
      I   stood   before   the   entrance
     *und [wer]*CT? *stand   da   plötzlich AUCH?*
      and   who   stood   there   suddenly   also
     'I stood in front of the entrance, and who suddenly appeared?"

(70) *Er   bat   sie,   [Ø]*CT? ***AUCH   zu   kommen.***
      he   asked   her   also   to   come
     'He asked her to come, too.'

Reis and Rosengren argue that the associated constituent of stressed *AUCH* in (69) is a question word which is not referential. Therefore, it cannot be a contrastive topic. Umbach (2012: 9) disagrees and argues that the question in (69) is in fact a "show master" question, which presupposes that the speaker is familiar with the answer. That is to say, it's not completely non-referential. Because stressed *AUCH* requires a contrastive topic, it also imposes a referential interpretation on the usually non-referential *wh*-word. This is a very interesting observation. It is in fact not so unusual that a *wh*-subject may have an actual individual reading, for instance, in an episodic environment, as pointed out by Lin (1996: 90). Consider (71):

(71) a.**Shéi   dōu   zài   chànggē?*
         who   DOU   PROG   sing.song

     b. *Shéi   YE   zài   chànggē?*
         who   also   PROG   sing.song
      'Who is also singing?'
      (cf. Lin 1996: 89)

According to Lin, a *wh*-phrase in a sentence with the *wh…dōu* pattern expressing a universal reading, denotes possible individuals rather than actual individuals. In an episodic environment, as marked by a progressive aspect *zài* in (71), the *wh*-subject has an actual individual reading, thus (71a) is bad. However, stressed additive particle *YE* is fine in the episodic context. By using

YE in (71b), the sentence presupposes that there is one specific person who is singing and the speaker knows it, in other words, this is a 'show master' question too.

Similarly, (70) cannot be an example either to show that stressed *AUCH* does not need a contrastive topic. Reis and Rosengren and Féry argue that there is no explicit element before stressed *AUCH* that could be a topic in (70). But following Krifka (1999), we can assume that there is a non-overt or implicit contrastive topic in front of *AUCH* in (70).[26]

Here I can provide another observation to substantiate the contrastive topic hypothesis. It has been observed (e.g., Hoeksema and Zwarts 1991) that focus particles are sensitive to the semantic property of their focused constituents. For instance, only in English one cannot modify indefinite quantifiers like *someone* or *everyone*:

(72) a. *Only someone objected to the proposal.
   b. *Only everyone was present at the meeting.
      (Hoeksema and Zwarts 1991: 62)

As Hoeksema and Zwarts point out, Dutch stressed *OOK* has a parallel performance, as is presented below:

(73) a. [*De slager*]$_{AC}$ *heeft*   *OOK*   *iemand*   *gehoord.*
      the butcher   has   too   someone   heard
      'The butcher heard someone too. '

   b. * *Iemand*   *heeft*   *OOK*   *de*   *slager*   *gehoord.*
      someone   has   too   the   butcher   heard

(74) a. [*De minister*]$_{AC}$ *heeft*   *OOK*   *iedereen*   *voorgesteld.*
      the minister   has   too   everyone   introduced
      'The minister introduced everyone too.'

   b. *Iedereen*   *heeft*   *OOK*   *de*   *minister*   *voorgesteld.*
      everyone   has   too   the   minister   introduced
      (cf. Hoeksema and Zwarts 1991: 63)

Not only the AC of *OOK* in the subject position cannot be an indefinite phrase, but the one in the object position cannot either. Consider (75),

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[26] Hole (2004: 157-160) has discussed some naturally occurring implicit contrastive topics; but with *jiù*, not with *yě*.

(75) a. *Hans   heeft   [de slechte   film]*~AC~   *OOK   gezien.*
     Hans   has   the bad   film   OOK   seen
     'Hans also saw the bad movie'

  b. **Hans heeft   een slechte   film   OOK   gezien.*
     Hans has   a bad   movie   too   seen

Mandarin stressed *YE* displays a similar behavior, as illustrated in (76),

(76) a. **Měi-ge   rén   YE   lái-le.*
     Every-CL   person   YE   come-PERF

  b. **Yí-ge   rén   YE   lái-le.*
     One-CL   person   YE   come-PERF

Hoeksema and Zwarts (1991) argue that indefinite quantifiers like *someone* or *everyone* cannot be contrasted with other quantifiers of a similar type. In Krifka's terms, this is because indefinite quantifiers cannot be a contrastive topic, therefore, they cannot function as the AC of stressed *OOK* or *YE*. Therefore, Krifka's contrastive topic hypothesis can be maintained and it can also be applied to Mandarin.

    What I want to add is that, although a stressed additive particle can be seen as a contrastive topic indicator, it does not mean that all elements before it are necessarily contrastive topics. However, the stressed additive particle is only associated with the ONE contrastive topic, and other elements, ID or AC, are irrelevant to the additive particle. It is quite obvious if we consider (61) and (62), besides the contrastive topics there is still a subject, which is an identical constituent with the antecedent. So, the AC/ID distributional pattern of (61) and (62) can be written as below:

(77) [AC]~CT~ ID$_1$ *YE* ID$_2$

Interestingly, Liu (2009: 46) finds that stressed *YE* allows more than one different constituent to its left. Consider (78):[27]

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[27] Huba Bartos (p.c.) suggests that the unexpected acceptability of sentences which have more than one AC may be understood if we take the different contrasted constituents as a contiguous sequence, i.e., as a kind of single syntactic unit, in the two parallel clauses. Thus, (78) (and in (19) above), may involve a single 'super AC' comprising the three different ACs. This is an interesting suggestion, that I look into in the future.

(78) *Lǐ Sì   zuótiān   zài-jiā   kàn-le   nà-běn   shū,*
     Li Si   yesterday at-home   read-PERF   that-CL   book
     Zhāng Sān   jīntiān   zài-xuéxiào YE kàn-le   nà-běn   shū.
     Zhang San   today   at-school   YE read-PERF that-CL   book
     'Li Si read that book at home yesterday, and ZhangSan read that book
     today at school too.'
     (Liu 2009: 46)

There are three added constituents to the left of stressed *YE* in its host sentence, which form three contrasting pairs with the antecedent clause. The AC/ID pattern of (78) can be written as:

(79) AC_1 AC_2 AC_3 *YE* ID_1 ID_2

Although there can be more than one AC constituent to the left of stressed *YE*, as we pointed out earlier, there is only one AC which can be seen as the contrastive topic, which is a priori determined by the context and can be marked by prosodic prominence. In (78), only one of them can be pronounced with a secondary accent. Other ACs are less important and cannot be emphasized by any accent. Instead, intuitively, these less relevant ACs will be articulated with a faster speed. In short, all other non-contrastive-topic ACs must be de-accented. Therefore, the AC/ID regularity of stressed *YE* can be summarized as (80).

(80) $([AC]_{CT})$ (AC) (ID) *YE* ID (ID)

From the pattern in (80), we can see that the associated constituent of stressed *YE* (which can be non-overt) is always to the left of it and forms a contrastive topic with the topic in the antecedent. Further, all identical constituents areo the right of stressed *YE*. If we put AC/ID patterns of stressed *YE* and unstressed *yě* together as in (81), we can find that Mandarin stressed and unstressed *yě*s display an "mirror image", i.e., they are in complementary distribution concerning the positions of AC and ID.

(81) **AC/ID patterns of stressed *YE* and unstressed *yě***
    $([AC]_{CT})$ (AC) (ID) *YE*   ID (ID)
    (ID) *yě* $[AC]_F$ (ID) (ID)

Then a natural question will be: shall we treat the stressed and unstressed version of *yě* as two different particles? The next section will try to answer this question.

2.5.5 Stressed *YE* vs. unstressed *yě*: two different particles?

Reis and Rosengren (1997) argue that there is only one *auch*, despite the existence of ±accent variants. According to them, it denotes a non-implicated and truth-relevant meaning, which is, in their terms, "ADD" (Reis and Rosengren 1997: 274). However, they also argue that two different utterance meanings arise depending on whether we have stressed *AUCH* or unstressed *auch*. They argue that this difference is due to the different AC/ID patterns. The utterance meaning of unstressed *auch* will be "in addition / furthermore", because it adds the AC materials to its alternative in the background; the utterance meaning of stressed *AUCH* is "likewise" (Reis and Rosengren 1997: 294). It adds only ID materials and thus emphasizes the aspect of sameness between the host sentence and the antecedent. In line with the distinction of the two utterance meanings, Féry (2012: 423) claims that *AUCH/auch*, just like two other German particles, *selbst* 'self/even' and *wieder* 'again', has two different information structure roles, i.e., association-with-focus and free focus, which results in their different performance in accent status and word order. She associates the 'in addition/furthermore' to the focus-sensitive particle, thus unstressed *auch* is a "truly additive" particle (Féry 2012: 437). She correlates the meaning of stressed *AUCH* 'likewise' to the free focus use, and she also argues that the accent on *AUCH* implies that it is affiliated to a "verum focus" (Höhle 1988, 1992). A verum focus is usually marked by accent to affirm the whole proposition and requires all other constituents in the clause to be deaccented. For instance, in (82B), the finite verb *ist* 'is' carries the verum focus of the sentence.

(82) A: *Maria ist nicht in Rom, Tom hat sie gestern gesehen.*
Maria is not in Rome Tom has her yesterday seen
'Maria is not in Rome. Tom saw her yesterday.'

B: *Doch, Maria IST in Rom.*
Sure, Maria is in Rome.
'But Maria IS in Rome.'
(Féry 2012: 439)

By the same token, Liu (2009) makes a clear-cut distinction between stressed *YE* and unstressed *yě*. According to her, the stressed *yě*, being a focus operator,

adds AC constituents to the discourse. However, stressed *YE* is treated as a scope particle whose range solely contains ID materials.

In view of the above proposals, the main difficulty to have a unified semantic account of the two variants lies in the fact that the stressed additive particle is associated with constituents preceding it, thus it is not like a normal focus particle which interacts with the focus in its scope. However, as I pointed out in section 2.4, a necessary condition and motivation to license the use of additive *yě* is the discourse similarity between the host proposition and the antecedent. The use of *yě* is therefore to indicate the argumentative similarity instead of lexical similarity. From the perspective of Rooth's alternative semantics, the alternatives that additive particles trigger are also propositions instead of isolated constituents. Therefore, stressed YE and unstressed *yě* only differ in the direction to signal the associated AC, i.e., the focus of the sentence. An alternative proposition which should be verified in the antecedent, can be retrieved by making a "substitution" of the AC, either the preceding AC (the "CT") or the posterior AC (the focus). Therefore, I cannot find sufficient reasons to have two interpretations for the stressed *YE* and the unstressed *ye*. If we look at the AC/ID pattern of stressed *YE* and unstressed *ye* as repeated in (83), it is easy to get the impression that the contrastive topic behaves exactly like a focus constituent in the sense that it can be accented and it is the only constituent that *yě* can associate with.

(83) **AC/ID patterns of stressed *YE* and unstressed *yě***
$([AC]_{CT})$ (AC) (ID) *YE* ID (ID)
(ID) *yě* $[AC]_F$ (ID) (AC)

The unified treatment of the stressed and the unstressed additive particle is indeed supported by many. Saebo (2004: 210, cf. Rooth 1992) argues that there is no need to distinguish between the notion of focus and topic, considering that they essentially evoke the same contrastive implicature. Umbach (2012) also provides a uniform account for stressed and unstressed *auch*, i.e., both are treated as focus particles. Stressed *AUCH* associates with split focus, i.e., "a topicalized part carrying the accent and a deaccented part adjacent to the particle" (Umbach 2012: 16). One of her German examples is taken here to illustrate the split focus hypothesis, see (84).

(84) a. [OTTO*i*]*CT* *hat* *AUCH* [*t*i *einen* *Schnaps* *getrunken*]*F*
   Otto   has also   one schnaps drunk
   'Otto drank a schnaps too.'

  b. Alt ([*OTTO hat einen Schnaps getrunken*]) = {*Otto hat einen*
                    Schnaps getrunken,
                    Bruno hat einen
                    Schnaps
                    getrunken,…}

(Umbach 2012: 16)

As is illustrated in (84b), the contrastive topic *OTTO* in (84a) is seen as part of the focus associated with *auch* and serves to individuate the descriptionally identical focus alternatives. She further claims that the accent on the particle *AUCH* as being an "emergency landing place for the obligatory sentence accent" has no semantic implication and thus does not indicate a verum focus either (Umbach 2012: 13). Like the role of accent on other postposed foci, the accent on the contrastive topic only marks the position where the alternatives vary.
 I agree with Umbach's unified treatment of stressed and unstressed additive particles, i.e., they are both a focus particle. Umbach's treatment can also apply to the analysis of Mandarin additive *yě/YE*, as illustrated in (48) - (50).

(85) [*LI SI*]*CT* *YE* [*t*i *mǎi-le* *yì-běn* *shū*]*F*.
  Li Si also buy-PERF one-CL book
  'Li Si bought a book too.'
  Alt ([*Lǐ Sì mǎi-le yì-běn shū*]) = Alt {*Lǐ Sì mǎi-le yì-běn shū,*
                  Zhāng Sān mǎi-le yì-běn shū,…}

(86) [*FAGUO diànyǐng*i]*CT* *tā* *YE* *xǐhuān* [*t*i]*F*.
  France film   he also like
  'He likes French films too.'
  Alt ([*Fǎguó diànyǐng tā xǐhuān*]) = Alt {*Fǎguó diànyǐng tā xǐhuān,*
                 Měiguó diànyǐng tā xǐhuān,…}

(87) *Tā* *yě* *xǐhuān* [*FAGUO diànyǐng*]*F*.
  he also like   French film
  'He also likes French films'
  Alt ([*Tā xǐhuān Fǎguó diànyǐng*]) = Alt {*Tā xǐhuān Fǎguó diànyǐng,*
                Tā xǐhuān Měiguó diànyǐng,…}

As is shown above, the function of stressed *YE* (as in (85) and (86)) is exactly the same as that of unstressed *yě* (as in (87)) in the sense of triggering alternatives and expressing the similarity between the host sentence and its alternatives. The accent on the associated constituents marks the range within which the alternatives differ.

2.5.6 The preceding stressed AC and unstressed *yě*

Previously we examined the regularity between additive *yě* and its AC and ID, and claimed that Mandarin *yě* displays exactly the same pattern as German *auch*, i.e., the last element in the *yě* /AC pair must bear the nuclear accent of the clause. However, there seem to be some counterexamples. According to Liu (2009), there are also cases in which the unstressed *yě* associated with a preceding constituent carries the central accent. One of her sentences is copied here as (88):

(88) *Zhāng Sān zài-jiā   bù   xuéxí,   zài-XUEXIAO   yě   bù   xuéxí.*
     Zhang San at-home   not   study   at-school   YE   not   study
     'Zhang San does not study at home and he does not study in school either.'
     (Liu 2009: 43)

In (88), the constituent preceding unstressed *yě*, *zài xuéxiào* 'at school', bears the central accent. Liu (2009) claims that the unstressed *yě* in sentences like (88) is a focus particle which is associated with a contrastive topic. However, I find it hard to treat the constituent preceding *yě* as a pure contrastive element here. If *zài xuéxiào* 'at school' is seen as a contrastive topic, the more natural way of reading (88) is to attach the primary stress to *yě* (or both *zài xuéxià* and *yě*), as we have seen in the examples we discussed in the previous section. When *zài xuéxiào* bears the main stress, it does not only mark that "He does not study at school" is one alternative that "Zhang San does not study at place x", it also indicates that the proposition that it expresses is the least expected one among all the alternatives. In other words, this alternative expressed by the sentence with *yě* is anchored at an endpoint of certain scale. Therefore, I propose that unstressed *yě* with a preceding stressed AC is always scalar. In Chapter 4, I will present a detailed analysis separating scalar *yě* from additive *yě* syntactically and semantically (see also Yang 2019: 155-178). But I can already provide a few pieces of evidence here to sustain my claim.

Firstly, all the cases with a stressed AC preceding an unstressed *yě* can be paraphrased using a *lián* '*even*'...*yě* sentence, as is shown in (89).

(89) *Zhāng Sān   zài-jiā   bù   xuéxí,*
Zhang San   at-home   not   study
lián   zài-XUEXIAO   yě   bù   xuéxí.
even   at-school   YE   not   study
'Zhang San does not study at home and he does not study even in school.'

The interpretation of an *even* sentence typically involves a highest point in a contextually determined scale of unlikelihood, surprise, etc. (Jacobs 1983; König 1991; Hole 2004, 2017). That is to say, the *even* focus introduces the most unlikely or surprising candidate in the set of all possible alternatives.

Secondly, a sentence with an unstressed *yě* preceded by a stressed AC does not need an explicit or accessible alternative in the context, that is to say, a verifiable antecedent is not a necessary condition to license *yě* in this situation. For instance, if there is no antecedent at all, the host sentence of *yě* in sentence (88) can still be uttered without any problem, as is shown in (90).

(90) *Zài-XUEXIAO* tā   *yě   bù   xuéxí.*
At-school   he   YE   not   study
'He does not study even at school.'

This can also apply to the following case with *yě*, yet without a verifiable alternative in the background.

(91) *Nǐ   zhīdào   ma? Zuótiān-de   huódòng*
You   know   SFP Yesterday-ATTR   activity
GUOWANG   yě   lái-le.
king   YE   come-PERF.
'Do you know? Even the king attended the activity yesterday.'

It is consistent with Tovena (2006), who claims that the Italian adverb *neanche* has two readings i.e., additive and scalar. The additive *neanche* must verify the presupposition in the antecedent, however, the presupposition of scalar *neanche* can be satisfied by accommodation. Consider her sentence (92), from Italian.

(92) a. *Non sono passate Marzia, June, April, e non è passata neanche May.*
      'March, June, and April didn't pass, neither did May.'

    b. *Non è passata neanche June.*
      'Not even June passed.'
      (Tovena 2006: 376)

In a situation that all the four students, namely Marzia, April, May and June, did not pass the exam, both (a) and (b) has expressed this information. However, in (92a), all the alternatives are overtly listed and can be arranged in a free order. In contrast, the alternatives activated in (92b) are not freely ordered and the student June mentioned in (92b) is believed to be the cleverest one among the four. The unstressed *yě* with a preceding stressed AC behaves in exactly the same way as the scalar *neanche* in (92b) to realize its presupposition and alternatives, i.e., by accommodation. Again, it shows that *yě* in this situation, i.e., a stressed constituent is followed by an unstressed *yě*, is different from the additive one and should be seen as a scalar particle. We leave the detailed discussion of scalar *yě* to Chapter 4.

2.6 A note on adjacency in Mandarin

Earlier on I assumed that the adjacency between *yě* and the AC might not be applicable in Mandarin due to the limits on the syntactic distribution of Mandarin *yě*. Two sentences are repeated here as (93) and (94) to demonstrate this:

(93) a. *Zhāng Sān   mǎi-le   yì-zhāng   huà,*
       Zhang San   buy-PERF   one-CL   picture,
       *yě   mǎi-le   [yì-běn   shū]*F
       YE   buy-PERF   one-CL   book.
       'Shang San bought a picture, and he also bought a book.'

   b. **Zhāng Sān   mǎi-le   yì-zhāng   huà,*
        Zhang San   buy-PERF   one-CL   picture,
        *mǎi-le   yě   [yì-běn   shū]*F.
        buy-PERF   YE   one-CL   book.

(94) *Zhāng Sān   xǐhuān   kàn   Měiguó   diànyǐng,*
     Zhang San   like   watch   the U.S.   film
     *[Fǎguó   diànyǐng]*CT   *tā   YE   xǐhuān.*
     France   film   he   YE   like
     'Zhang San likes to watch American films, and he likes French films as well.'

Yě, unstressed in (93) and stressed in (94), is not adjacent to its AC in either sentence. One can still ask whether the distance between Mandarin additive *yě* and its AC has any consequence at all. It has been observed that not just any type of the constituent can come between *yě* and its AC. A sentence from Lu (1999) which is given as unacceptable by him is cited here as (95):

(95) ?*Wáng   lǎoshī   zài-zīliàoshì-li   chá   zīliào,*
     Wang   teacher   at-reading room-inside   search   material
     Lǐ   lǎoshī   zài-zīliàoshì-li   yě   chá   zīliào.
     Li   teacher   at-reading.room-inside   YE   search   material
     'Teacher Wang checks materials at the reading room, so does Teacher Li.'
     (Lu 1999: 121)

In Lu's article, the prosodic feature of *yě* is not considered. However, considering the factor of accent or stress, the grammaticality test can be more precise. If *yě* is not stressed, the sentence sounds very odd. However, if *yě* is stressed and the adverbial *zài-zīliàoshì-li* 'at the reading room' in between the contrasted subject and *yě* is deaccented, the sentence sounds much better. I assume that by deaccenting the adverbial in between, the adjacency between the subject and *yě* is to some degree restored. That is to say, even for *yě* there is an adjacency requirement, except that there are certain distributional restrictions which keeps *yě* from being adjacent in the most literal sense. For instance, apparently, it can never be inside the VP, so it can never get adjacent to the object. However, as (95) shows, that when the AC precedes *ye*, the (prosodic) distance must not be too long either.

    A parallel phenomenon is observed by Liu (2009) concerning unstressed *yě*. Liu (2009) notes that if a locative adverbial is inserted in between unstressed *yě* and its AC following it, the sentence becomes degraded, as is shown in (96) and (97).

(96) *Zhāng Sān   yě   mǎi-le   [yì-běn shū]*F
     Zhang San   YE   buy-PERF   one-CL book
     'Zhang San also bought a book.'

(97) ??*Zhāng Sān   yě   zài-xuéxiào   mǎi-le   [yì-běn SHU]*F
     Zhang San   YE   at-school   buy-PERF   one-CL book
     Intended: 'Zhang San also bought a book at school.'
     (Liu 2009: 30-31)

When the locative adverbial is inserted in between unstressed *yě* and the AC, the sentence is degraded. The AC is simply too distant from the focus particle. In contrast, if the AC is the locative adverbial, the sentence is fine again. Consider (98).

(98) *Zhāng Sān   yě* [*zài-XUEXIAO*]_F *mǎi-le   yì-běn   shū*
     Zhang San   YE   at-school   buy-PERF   one-CL   book
     'Zhang San also bought a book at school.'

Therefore, unstressed *yě* also tends to be closer to its AC. Sentences (96) – (98) demonstrate that the adjacency between the additive particle and its AC found in German and Dutch in a way also works in Mandarin. However, not all adverbials can block the association between *yě* and its associated constituent. Consider (99).

(99) *Zhāng Sān   chī-le   dùn   fàn,*
     Zhang San   eat-PERF   CL   meal
     {*yě*}   *hěn-kuài-de*   {**yě*}   [*mǎi-le   běn   shū*]_F.
     YE   quickly   YE   buy-PERF   CL   book
     'Zhang San had a meal and also bought a book quickly.'

If we follow the adjacency principle, *yě* should be put after the manner adverb *hěn-kuài-de* 'quickly'. In fact, *yě* can only occur in a higher position than that. It can be related to the fact that manner adverbs and locatives occupy different positions: manner adverbs are much lower, they may be adjoined to vP or, even lower (e.g., VP) (Jackendoff 1972; Cinque 1999; Ernst 2004, etc.). In Chapter 3, the syntactic position of *yě* and its relative position with other adverbs/adverbials will be explored in detail.

2.7 Conclusion

This chapter presented in detail the treatment of Mandarin additive *yě* as an anaphoric element. Three properties of the additive particle were discussed to support this anaphoric treatment, viz., (i) due to its lack of descriptive content, it has no effect on the truth conditions of the host sentence and it resists presuppositional accommodation; (ii) its interpretation always depends on a verifiable antecedent which can satisfy its presupposition; and (iii) the two clauses coordinated by additive *yě* are asymmetric in order.

     To the background of this proposal, I probed into what the possible antecedents of additive *yě* could be. By showing that the so-called "one-distinction" requirement cannot cover all situations where *yě* can be used, I argued that lexical or constituent similarity is not a necessary condition to license additive *yě*. As an anaphoric element, *yě* is satisfied when there is something in the context or discourse that it can refer to. Therefore, a verifiable antecedent (including an active context) with the same argumentative orientation towards the host sentence, is a necessary condition to license the use of *yě*. This approach is not only compatible with the

anaphoric treatment, it can also provide an account for some special cases in Mandarin, such as the *yě...yě...* construction and the cases where the "one-distinction" requirement is violated. I also presented examples to illustrate how the host sentence of *yě* can help to disambiguate the interpretation of the antecedent.

Finally, I looked closely at the properties of the host sentence. The two orders between the AC and the additive particle and their prosodic consequence were discussed. We found that, in parallel with their German counterparts, Mandarin stressed and unstressed *yě*s display a "mirror image", i.e., they are in complementary distribution concerning the positions of AC and ID. I discussed in detail the relations between *yě* and its AC, preceding or following. In particular, I argued that the "contrastive topic" treatment of the preceding AC before the stressed particle can be maintained in Mandarin and that the unstressed *yě* with a preceding stressed AC should be seen as a scalar particle. Regardless of the two variants, I argued that the stressed and unstressed additive *yě*s have the same interpretation and function, which is in line with Umbach (2012). This view differs from the position of Reis and Rosengren (1997) who argue for two different "utterance meanings" and Féry (2012) who claims two different information structure roles, i.e., association-with-focus and free focus/verum focus. In this chapter I finally touched upon the fact that Mandarin *yě* is distributionally more restricted than German *auch*. To get a clearer picture on this issue, a detailed survey of the syntactic distribution of *yě* will be presented in Chapter 3.