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Yang, Z.

Citation

Yang, Z. (2024). Three yěs in Mandarin. *International Journal Of Chinese Linguistics*.
doi:10.13140/RG.2.2.28418.04801

Version: Submitted Manuscript (under Review)
License: [Leiden University Non-exclusive license](#)
Downloaded from: <https://hdl.handle.net/1887/3729632>

Note: To cite this publication please use the final published version (if applicable).

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Author name: Zhaole YANG

Affiliations: Department of Chinese Studies, Leiden Institute for Area Studies (LIAS),
Leiden University

Address for correspondence: PO Box 9515 2300 RA Leiden, The Netherlands

Email: z.yang@hum.leidenuniv.nl

Acknowledgments

This paper is based on my Ph.D. dissertation of 2020, enriched with new ideas and fresh insights. My heartfelt gratitude goes to Rint Sybesma, Daniel Hole, and Lisa Cheng for their meticulous and extensive feedback on this manuscript. I am most grateful to Wei-Tien Dylan Tsai and Mingming Liu for generously sharing their perspectives on several important issues discussed in this research with me. Additionally, I wish to express my thanks to many individuals who helped me by providing valuable comments during my presentations on this topic in Guangzhou and Stuttgart, particularly, Dingxu Shi, Qingwen Zhang, Zhe Chen, Hang Cheng, Hans Kamp, and Judith Tonhauser. I am deeply indebted to my language consultants, whose data and judgments have been indispensable in shaping this study.

Three *Yěs* in Mandarin

Zhaole Yang Leiden University

This paper argues that different from the focus use of the additive particle *yě* ‘also’, the *yěs* in its scalar use and modal use should be analyzed as distinct linguistic elements, indicating the existence of three different *yěs* in Mandarin. We aim to illustrate that the semantic differences among the three uses arise from the unique presupposition inherent in each, dictating distinct relationships between the prejacent and the activated alternative(s). Expanding upon this premise, we further demonstrate that the three *yěs* are positioned differently within the syntactic structure. Specifically, Additive *yě* functions as an IP adverb; Scalar *yě*, serving as the functional head of the Scal(arity)P, occupies a position higher than the epistemic phrase in the CP; Modal *yě* is situated even higher than the projection of evidential adverbs. Additionally, we also discuss the restricted interchangeability and cooccurrence between Scalar *yě* and *dōu*. Drawing on these observations, our research presents a comprehensive exploration of the multifaceted nature of the Mandarin particle *yě*.

Keywords: Mandarin *yě*, additive particle, scalarity, *dōu*, modal particle

1. Introduction

It is well known that Mandarin *yě* has different meanings in different contexts (see Alleton 1972; Y. Yang 1988; Biq 1989; Hou 1998; Hole 2004, among others). Consider the examples below:

- (1) *Nǐ yīnggāi chī-diǎnr qīngcài, yě yīnggāi*
you should eat-a.bit vegetable also should
chī-diǎnr niúròu.
eat-a.bit beef
‘You should eat some vegetables and also some beef.’ (Hole 2004: 43)
- (2) *Lián guówáng yě huì lái.*
even king YE will come
‘Even the king will come.’ (Hole 2004: 38)
- (3) *Tā shénme yě bù shuō.*
he what YE not say
‘He doesn’t say anything at all.’ (Alleton 1972: 66)
- (4) *Nǐ yě tài xiǎokàn rén le,*
you YE too belittle person SFP
tā kě shì kēbān chūshēn.
he in.fact is professional.training background
‘You would rather not look down on him [lit. You look down on him too much].
After all, he has received professional training.’ (Hou1998: 620)

Yě in (1), as also known as Alleton's (1972) “Value III” and Hole’s (2004) “focusing *yě*”, seamlessly translates to “also” in English. Similar to its English counterpart, this *yě* frequently appears within a host sentence, i.e., the prejacent, which follows another

sentence, referred to as the antecedent. Its semantic contribution is often characterized as conveying a sense of “similarity” or as “adding more information” (Ma 1982; Biq 1989; Lu 1999).

Yě in (2) and (3) lacks an English equivalent. Establishing a dependent relation with phrases in its left periphery, it exhibits either an *even* reading, as in (2), or a universal reading, as in (3). Alleton (1972) labels this type of *yě* as Value II, while Biq (1989) and Hole (2004) term it “parametric *yě*”.

Yě in (4), categorized as “Value I” by Alleton and “emphatic *yě*” by Hole (2004), remains invisible in the English translation. It is believed to imbue the prejacent with a subjunctive nuance, i.e., the speaker’s attitude to or evaluation of the assertion it is part of.

The three instances of *yě*, as illustrated in (1) to (4), not only exhibit differences semantically, but also manifest prosodic and grammatical variation. Prosodically, the first instance of *yě*, as in (1), displays stress variation, dependent on the position of the focus associated with it (for a detailed analysis, see Z. Yang 2020: 35-59). In this respect, the second instance of *yě*, as in (2) and (3), starkly contrasts with Additive *yě*: It cannot be stressed (as noted in Alleton (1972), Sybesma (1996), Zhang (1997), Hole (2004), among others). The third instance of *yě* is routinely employed without stress and can even be pronounced in a more reduced way, i.e., with a “neutral tone” (Z. Yang 2020: 133), but some of our native speaker consultants have also noted that placing stress on Modal *yě* is acceptable in specific contexts. Grammatically, the second instance of *yě* distinguishes itself from the other two: It is syntactically mandatory (without it, sentences like (2) and (3) would be ungrammatical). In contrast, omitting *yě* from (1) and (4) does not have repercussions for the grammaticality (but the meaning of the sentence may change, of course).

The discernible differences between the three instances of *yě* naturally prompt a question: are these merely three “use types”, as termed by Hole (2004) and Z. Yang (2020), of a single *yě*, or do they represent three fundamentally distinct *yě*s? In the subsequent discussion, I will adopt the classification presented in Z. Yang (2020) and designate the three instances respectively as “Additive *yě*”, as in (1), “Scalar *yě*”, as in (2) and (3), and “Modal *yě*”, as in (4). The primary objective of this paper is to demonstrate that all three manifestations of *yě* differ from each other both semantically and syntactically, thus underscoring the claim that there are three distinct *yě*s.

To reach this goal, section 2 will delineate their semantic differences, arguing that the variations in meaning arise from the unique presupposition each one carries. In section 3, a cartographic analysis will be presented to establish that the three *yě*s do occupy distinct syntactic positions within the sentence. Specifically, one resides in the IP, while the other two occupy positions in the CP domain, albeit in different layers. Section 4 will focus on the Scalar *yě* arguing that it can be analyzed as a functional head, followed by a brief discussion on its alternative *dōu* ‘all’. Section 5 will present the conclusions.

2. The semantics of the three *yě*s

This section will explore the semantics of the *yě*s. It will be argued that their semantic

differences stem from the presuppositions they carry. As a result of these presuppositions, we observe distinct relationships between the proposition conveyed by the prejacent and the alternatives invoked within varying contexts.

2.1 Additive *yě* with an additivity presupposition

Whether stressed or not, Additive *yě*, functions as a focus-sensitive particle. This characteristic becomes evident when we observe that it activates different sets of alternatives depending on its association with various constituents of the prejacent, i.e., the foci. Consider the following example adapted from Y. Yang (1988: 56):

- (5) *Wáng lǎoshī yě jiāo shùxué.*
 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.
- d. Teacher Wang does not only teach Math, but he is also the headmaster.

As illustrated in (5), one can generate four distinct sets of alternatives by shifting the focus within the sentence—namely, the subject, as in (5a), the object, as in (5b), the verb, as in (5c), and the entire VP, as in (5d). The four sets of alternatives are obtainable via a simple substitution in various positions of the focus constituent, as dictated by alternative semantics (e.g., Rooth 1985, 1992, 1996). This focus particle is termed ‘additive’ since, when used, it appends the new information expressed by the focus or the assertion expressed by the prejacent to the current discussion. This concept can be encapsulated by Krifka’s (1999: 111) formulation:

- (6) [ADD₁ [...F₁...]]: [...F...] (∃F' ≠ F [...F'...])
 Assertion Presupposition

This additive inference triggered by using this *yě* is, in fact, presupposed (see more discussion by Z. Yang 2020: 17; Liu 2023a: 181). This can be easily proved if we turn (5) into a yes-no question by adding a sentence-final question marker *ma*; the alternatives are still activated as we switch the associated focus of *yě*.

The additivity presupposition of Additive *yě* imposes two specific conditions or prerequisites for using this element: the “out of the blue” restriction, as discussed by Z. Yang (2020:18), and the “non-entailing” requirement, as observed by Liu (2023a). Let’s look at the first requirement. Kripke (1990, 2009) notes that a sentence with the additive *also* or *too* cannot be articulated out of the blue, even though sometimes the presupposition can be trivially satisfied. The exact same requirement applies to Mandarin Additive *yě* as well, in the sense that its usage mandatorily requires an explicit antecedent, at the very least, an active context, to meet the additivity presupposition. For instance, the presupposition in the statement provided in (7) can be casually fulfilled in real-life scenarios, given that there must have been another individual concurrently indulging in tea drinking in Guangzhou, a city renowned for its tea-

drinking culture. However, articulating this sentence without explicitly referencing another tea drinker in the preceding context (or without the person being “active” in the ongoing discourse, such as being mutually recognized by the interlocutors beforehand) is considered unacceptable.

- (7) *Wáng Yù dāngshí yě zài Guǎngzhōu yǐn-chá.*
 Wang Yu then also PROG Guangzhou drink.tea
 ‘Wang Yu also was drinking tea at that moment.’

The second requirement, as observed by Liu (2023a: 182), in alignment with Beaver and Clark (2008) and Jasinskaja and Zeevat (2009), stipulates that Mandarin Additive *yě* mandates that its prejacent and antecedent should be logically independent, i.e., the two propositions cannot entail each other. One example from Liu to illustrate this restriction is given here in (8).

- (8) *Wǒ qǐng-le Zhāngsān, shíjìshàng wǒ (*yě) qǐng-le*
I invite- PERF Zhangsan actually I also invite-PERF
[Zhāngsān hé Lǐsì]^F.
Zhangsan and Lisi.
*‘I invited Zhangsan. Actually, I (*also) invited Zhangsan and Lisi.*

Because the prejacent of Additive *yě* entails the antecedent in (8), it violates the non-entailing requirement, rendering the use of Additive *yě* in the second clause infelicitous.

Moreover, we believe that the two aforementioned constraints are necessary but not sufficient conditions for the licensing of a sentence with Additive *yě*. As various scholars have observed (such as Ma 1982; Biq1989; Lu 1999), the underlying motivation behind employing Additive *yě* is rooted in conveying the “similarity” between the prejacent and its antecedent. Kaplan (1984: 516) makes a similar remark about English *too*, noting that it “highlight[s] the similarity between contrasting elements.” To put it differently, while “contrast” serves as a prerequisite concerning the previously discussed “non-entailing” requirement, it is not the primary intention or licensing condition. Detecting “similarity” between the prejacent and its antecedent is sometimes evident at the surface level, often involving lexically identical constituents in the two sentences. In (1), for instance, the only noticeable distinction between the prejacent and the antecedent lies in a single constituent, fittingly referred to as the “one-distinction” requirement (Green 1968; Kaplan 1984).

However, instances in Mandarin, as in (9) (originally from Biq 1989: 4), where such strict similarity is absent, challenge our understanding of the concept of “similarity”.

- (9) *Wǎn yě xǐ-le, zhuōzi yě cā-le,*
 bowl also wash-PERF table also wipe-PERF
hái yǒu shénme méi zuò de?
 still have what not do ATTR

‘The dishes are washed; the table is wiped, too. What else is there to do?’

Evidently, lexical similarity, as exemplified in (1), is not there in (9). Furthermore, Additive *yě* is used twice: once in the “antecedent” and once in the “prejacent”. In sentences featuring the *yě...yě* construction, also known as the “correlative conjunction” (Chao 1968), the order of the two elements is flexible, seemingly contradicting one of the prerequisites for using Additive *yě*, as there is no readily apparent antecedent for the first clause containing *yě*.¹

To accommodate the challenging data in (9), a more nuanced exploration of the concept of “similarity” is imperative. It is crucial to comprehend this concept in terms of the discourse function served by Additive *yě*. To be more precise, Additive *yě* is instrumental in marking what Winterstein (2009: 331) terms “similarity in argumentative orientation” between the prejacent and the antecedent. Winterstein (2009) argues that the argumentation of an utterance is oriented: it is either positive or negative relative to the “argumentative goal”. The use of an additive particle is contingent upon achieving a synchronized argumentative orientation between the prejacent and the antecedent. This synchronized argumentative orientation is often realized by sharing lexically identical constituents in two sentences, as demonstrated in (1). In cases where this lexical identity is absent, the employment of *yě* twice can compel and signify the synchronization of the two clauses in the argumentative orientation concerning the discourse goal. It is noteworthy that the argumentative goal can be inferred from the current active context and is jointly referenced by both clauses in the construction. Consequently, the active context effectively fulfills the antecedent requirement for both clauses featuring *yě*. Hence, we can maintain the assertion that Additive *yě* functions as an anaphoric element akin to pronouns, consistently referring backward, without necessitating an alternative interpretation suggesting that the presuppositions of each clause within this construction can be “mutually satisfied” or “internally satisfied” (cf. Kobuchi-Philip 2009; Brasoveanu & Szabolcsi 2013; Szabolcsi 2015; Liu 2023b: 168-172).

Having established that the first *yě* entails an additive presupposition, we have also unpacked three requisites accompanying this presupposition. It stipulates that the antecedent of Additive *yě* must be explicitly stated or, at a minimum, activated within the context. In addition, the relationship between the antecedent and the prejacent should avoid mutual entailment while still demonstrating similarities in the argumentative orientation. Now, let's direct our attention to the second *yě*, i.e., the scalar one.

2.2 *Scalar yě with a scalarity presupposition*

As previously demonstrated, Scalar *yě* typically occurs in settings where it immediately

¹ The English construction with *both...and...* deviates from the Mandarin *yě...yě* structure due to an inherent asymmetry between the connected elements (de Vries 2005). Notably, Z. Yang (2020: 29-30) suggests that the Dutch *en...en...* pattern aligns more closely as a perfect counterpart to the Mandarin *yě...yě...* construction. Like its Mandarin equivalent, the Dutch *en...en...* pattern permits the use of more than two conjunctions within a sentence.

follows a phrase with an *even* or universal interpretation, for instance, it pairs with an *even*-denoting phrase, such as a *lián*-phrase, as exemplified in (10) (= (2)), or a *no-matter*-denoting phrase, like the *wh*-phrase in (11) (= (3)).

- (10) *Lián guówáng yě/dōu huì lái.*
 even king YE/DOU will come
 ‘Even the king will come.’
- (11) *Tā shénme yě/dōu bù shuō.*
 he what YE/DOU not say
 ‘He doesn’t say anything at all’.

It is important to note that in these sentences, another element, *dōu*, literally ‘all’, is frequently used interchangeably with *yě*, as evident in (10) and (11). However, as we progress through this section, we will observe their differing acceptability and functionalities.

Additionally, omitting *yě* or *dōu* would render the sentences ungrammatical. This is again different from Additive *yě*, which cannot alternate with *dōu* and can be left out without impacting the sentence's grammaticality. However, understanding the conditions under which Scalar *yě* can be licensed becomes crucial. In the upcoming sections of this article, we argue that the scalarity presupposition emerges as the defining feature that sets Scalar *yě* apart from the other two.

2.2.1 Instances with a lexical scale

There are additional reasons for us to approach this *yě* differently. Basically, all the preconditions of using Additive *yě* discussed above do not hold here. Just like Italian *neanche* (as discussed by Tovenà 2006), which can convey a scalar meaning in certain situations, Scalar *yě*, does not necessitate an antecedent and can stand alone in an independent context. Furthermore, as highlighted by Liu (2023a: 185), the entailing relationship between the preceding clause and the prejacent of Scalar *yě* does not hinder its usage, as exemplified in (12):

- (12) *Biéshuō liǎng-ge rén le, lián sān-ge rén yě zuò-de-xià.*
 let.alone two-CL person SFP even three-CL man YE
 sit-able-down
 ‘Two people, of course, can fit [in the car]. Even three people can.’

Crucially, as shown in (12), the clause with Scalar *yě* denotes a less likely event than the event expressed by the preceding clause. Therefore, a likelihood scale is involved when using Scalar *yě*.

The connection between the presence of scalarity and Scalar *yě* can be further supported by the fact that Scalar *yě* fits seamlessly within sentences carrying inherently scalar phrases, as exemplified by (13) with an *even*-phrase, (14) with an *even-if* phrase, (15) with phrases with a minimizer or superlative interpretation, and (16) with a *wh*-

phrase with an inherent scalar reading (cf. Sugimura 1992; K. Yang 2002; Z. Yang 2019; Liu 2023).

- (13) *Lián guówáng *(yě) huì lái.*
 even king YE will come
 ‘Even the king will come.’
- (14) *Jíshǐ guówáng lái, wǒ *(yě) bú qù.*
 even if king come I YE not go
 ‘Even if the king comes, I will not go.’ (Hole 2004: 223)
- (15) *Tā yí-jù-huà *(yě) shuō-bu-chūlai.*
 (s)he one.word YE not.be.able.to.speak
 ‘(S)he could not even say a word.’ (Paris 1994: 249)
- (16) *Duōshao qián *(yě) děi huā de!*
 however.much money YE have.to spend SFP
 ‘However much money, you still have to spend it.’ (Liu 2023b:166)

As shown above, Scalar *yě* can be perfectly licensed in sentences featuring a scale that can be derived lexically. It is worth noting that, while *dōu* could replace *yě* in all the sentences, a corpus study (Z. Yang 2019: 161) reveals that *yě* is more commonly used than *dōu* in these overtly scalar contexts. The observation suggests that Scalar *yě* is more closely linked to scalarity than *dōu*, a point we will revisit later on.

2.2.2 Instances with a “strong NPI”-type scale

Scalar *yě* can also be appropriately used in sentences like (17), which contain a *wh*-phrase conveying a universal interpretation alongside negation.

- (17) *Shéi *(yě) bú huì guài nǐ.*
 who YE not will blame you.
 a. ‘No one (=not even a single person) will blame you at all.’
 b. ‘Even the most likely person (to blame you) will not blame you.’

Previous research has suggested that the *wh*- *yě* sequence in a negative sentence, in addition to the universal interpretation, takes on a scalar interpretation that involves a widening of the extension, akin to English *even*, or a “strong NPI” like the stressed *any* (Hole 2004; cf. Zwarts 1993; Krifka 1995). Note that the *wh*-phrase in sentences like (17) is always stressed (a point we will discuss more in 2.2.4), allowing for two possible scalar readings: one, as in (17a), refers to minimal entities, aligning with a “minimizer” (cf. K. Yang (2002: 249-250),² and the other, as in (17b), refers to an individual in an

² We concur that despite the similarities in interpretation, it remains evident that *wh*-phrase differs from the minimizer, as elucidated by Guo (1998) regarding the syntactic constraints associated with the use of minimizers, i.e., they can only be internal arguments. Another observation is that, as evidenced by the translations in (17), in some contexts, the *wh*-phrase can activate sets of alternatives of distinct types: one type pertains to quantity, akin to those

extreme scenario, behaving akin to a superlative, as highlighted by Sugimura (1992). Both readings ensure a scalar context where Scalar *yě* finds appropriate licensing. While *dōu* remains an alternative option, it has been observed that in negative *wh*-sentences, native speakers tend to use *yě* more frequently than *dōu* (Zhu 1982: 93; Lü 1985: 174).³

Additionally, using *yě* serves to reinforce the scalar *even*-reading. This stands in contrast to its alternative *dōu*: if *dōu* is used in (17) instead of *yě*, although scalar readings are still feasible, a non-scalar universal reading of the *wh*-phrase cannot be excluded. In this alternate interpretation, it implies that all individuals (among those typically considered in the ongoing discourse), without any bias, will not blame you. Here, a universal or exhaustive reading of the *wh* is present, yet scales don't play a role, nor are they necessary.

Consequently, we argue that the exclusively scalar readings showcased in (17) are amplified by using Scalar *yě*, which inherently carries a scalar presupposition. Different from the additive one, this scalar presupposition dictates that the prejacent (as the semantically strongest one) and its contextual alternatives must be arranged on a scale. The inherent nature of this scalar inference as a presupposition is evident when questioning (17) by adding the phrase *shì-bu-shì* 'whether or not', as illustrated in (18), the scalar readings remain untouched.

- (18) *Shì-bu-shì* *shéi* *yě* *bú* *huì* *guài* *nǐ*.
 whether.or.not who YE not will blame you.
 a. Is it true or not that no one (=not even a single person) will blame you AT ALL?
 b. Is it true or not that EVEN the most likely person (to blame you) will not blame you?

As discussed previously, *yě* carrying a scalar presupposition is appropriately used in sentences featuring a scale, derived either lexically from inherently scalar phrases (e.g., (13)-(16)) or from the strong NPI reading of *wh*-phrases in negative sentences (e.g., (17)). Conversely, in a pure free-choice context without any scale involved, using Scalar *yě* renders the sentence ungrammatical. For instance, in a scenario where any key on the keyboard can activate the computer, the use of Scalar *yě* is evidently less preferred, as illustrated in (19):

- (19) A: *Ān* *nǎ-ge* *jiàn* *kěyǐ* *kāijī?*
 press which- CL key can turn.on
 'Which key should I press to turn on the machine?'
 B1: *Ān* *rènhé* *jiàn* *dōu/*yě* *kěyǐ*.
 press any key DOU/YE can

often prompted by minimizers, while the other type encompasses subdomain alternatives specifically reference individual entities. (cf. Liu 2023b: 187-188)

³ In fact, comprehensive corpus studies have consistently demonstrated that most *wh-yě* constructions occur within a negative context (reaching as high as 96.1% according to Z. Yang (2002) and 96.7% according to Ba and Zhang (2012)).

‘Pressing any key will work.’

B2: *Wúlùn àn nǎ-ge jiàn dōu/*yě kěyǐ.*
no.matter press which- CL key DOU/YE can
‘No matter which one you press will work.’

Note that there are two alternative answers to the question in (19). In (19: B1), the phrase *rèn hé* ‘any’, commonly regarded as a free-choice item in Mandarin (e.g., Cheng and Giannakidou 2013), indicates an impartial context. In (19: B2), the unbiased interpretation of the *wh*-phrase is reinforced by using the unconditional conjunction marker *wúlùn* ‘no matter’, which is linked to the free-choice interpretation of its associated phrase.⁴ In both responses, there exists no discernible scale, either lexical or contextual, that allows for ranking the alternative keys. Notably, while *dōu* can be used in the two sentences, the scale-sensitive *yě* cannot. Similarly, most disjunctive phrases introducing equal alternatives do not align well with *yě*, as seen in (20) (originally from Yang 2020: 107):

(20) *Wúlùn nǐ hái shì tā, wǒ dōu/*yě bù xǐhuān.*
no.matter you or he I DOU/YE not like
‘No matter if it is you or him, I simply do not like.’

The distinction between *yě* and *dōu* is notably evident in (19) and (20): Obviously, the use of *dōu* is less constrained and can also be used in contexts where scale is irrelevant. In contrast, using Scalar *yě*, which inevitably imposes a scalar presupposition, would only lead to semantic conflict in the non-scalar contexts, rendering sentences unacceptable.

Upon examining both scalar and non-scalar cases, it becomes evident that the second *yě*, discussed in this section, is closely associated with a scale. It can be licensed solely within a scalar environment. Using Scalar *yě* will inevitably introduce a scalar presupposition which requires the prejacent and the contextual alternatives to be ordered.

2.2.3 Instances with a pragmatic scale

Evidence indicates that Scalar *yě* applies even within the context featuring an obvious pragmatic scale. A contextual scale contributes to the scalarized interpretation of a *wh*-phrase or a disjunctive phrase in affirmative sentences, which otherwise possess a purely free-choice reading. Consider (21) (from Hou 1998: 620) and (22) (from Hole 2004: 219, cf. Alleton 1972: 65):

⁴ Lin (1996) links all typical *dōu* sentences to “*wúlùn... dōu*” construction. Giannakidou and Cheng (2006) analyzes *wúlùn* as an “FC determiner” like Greek *-dhipote* providing intensionality. Z. Yang (2020:124) argues that *wúlùn* is used to enforce the exhaustiveness reading and has nothing to do with scalarity.

- (21) *Nǐmen yǒuqián-rén, nǎli yě néng qù,*
 You rich-people where YE can go
nǐ yě dài wǒ qù ba.
 you also take I go SFP
 ‘You rich people can go ANYwhere you want. Please take me with you, too.’
- (22) *Búlùn báitiān wǎnshang,*
 no.matter day-time evening
tā yě yào diǎn-zhe yóudēng.
 he YE will ignite- PROG oil-lamp
 ‘No matter whether it is the evening or (EVEN) during the day, he always wants to keep the oil lamp burning.’

Note that, as evidenced by (19) and (20), a *wh*-phrase and a disjunction in these sentences typically carry a universal or free-choice interpretation, and Scalar *yě* is in general not good in these sentences. However, (21) and (22) contrast with (19) and (20): there are evident contextual scales for the speaker to rank the alternatives introduced by the *wh*-phrase and the disjunctive. Specifically, in (21), the phrase *nǐmen yǒuqián-rén* ‘you rich people’ preceding the *wh*-phrase, referred to as a contextual “restrictor” by Z. Yang (2019: 164), introduces a scale of wealth to rank the possible traveling destinations. The implication is that wealthy individuals have the capability to visit even the most luxurious destinations. Similarly, in (22), we can position the two alternatives by situating them on a likelihood scale presented in the current context, where having an oil lamp burning in the evening makes more sense than having one on during the daytime. Therefore, although the scalar reading doesn’t stem from an inherently scalar phrase or the strong NPI reading of the *wh* phrase in these two sentences, the context provides the interlocutors with a pragmatic scale, which enables the possibility of a scalarized reading and the use of Scalar *yě*.

Interestingly, despite the fact that these sentences are well-documented in the literature, our native speaker consultants often exhibit inconsistent judgments regarding the acceptability of *yě* in these contexts. Liu (2023b: 162) also notes persistent discrepancies in judgment among his consultants concerning the acceptability of *wh-yě* in affirmative sentences. We assume it is because the contextually derived or pragmatic scale is not immediately accessible to the “hearers”, i.e., the native speaker consultants in our cases. Reconstructing the specific contexts from which these “grammatical” sentences (at least from the speaker’s perspective) are derived requires additional cognitive effort on the hearer’s part (see more discussion by Hansen and Terkoufafi (2023) on how the hearer’s interpretation may be different from the speaker’s intended meaning). A vivid example highlighting the “effort” from the hearer’s perspective is the observation that some consultants only accept (21) when extra stress is placed on the *wh*-phrase. This aligns with Z. Yang (2019)’s observation that stress plays an important role, as an “activator”, for the scalar interpretation of a *wh*-phrase. Note that this view differs from the view associating stress only with focus and its role in “activating the domain alternatives” (Liu 2023a: 198). We will revisit this observation below.

Another interesting observation is that, in (21) and (22), modal verbs are used.

There is a noted pattern in affirmative *wh-yě* sentences, that adding a modal generally enhances the acceptability of scalar *yě* (cf. Hole 2004). This can be further evidenced by the fact that leaving the modal out from (21) and (22) will make the use of *yě* in the two sentences even more questionable, while *dōu* can still be used. It is worth noting that a modal is not always necessary, especially when the scale is lexically indicated. Consider (23) (adapted from (2)) with an episodic reading and without a modal:

- (23) *Lián guówáng yě/dōu lái le.*
 even king YE/DOU come PERF
 ‘Even the king has come.’

Indeed, a modalized context cannot always guarantee the use of Scalar *yě*, consider (24) from Hole (2004: 89) and initially proposed by Eifring (1995: 170):

- (24) *Bùguǎn cóng shénme dìfāng dōu/*yě kěyǐ shàng-qu.*
 no.matter from what place DOU/YE can ascend-go
 ‘You can ascend from any place.’

The absence of a contextual scale in (24) despite the presence of a modal verb brings out clearly scalarity as the primary licensing condition for Scalar *yě*. Therefore, we diverge with Hole (2004: 88), who argues that "nonveridicality", which covers all the cases involving negation and modality, is the licensing condition of Scalar *yě*. Instead, we posit that modal verbs contribute to constructing a contextual scale in affirmative sentences like (21) and (22). Modals provide the gradable semantics rooted in possibility or necessity, which facilitates establishing the scale necessary for licensing *yě*, but only when it is supported by other contextual elements (cf. Lassiter 2011 and Z. Yang 2019).

2.2.4 Scale, stress, and domain widening

As observed earlier (as in (17)), prosody, particularly stress placement, plays a role in the process of scalarization: Native speakers consistently place stress on the associated phrase of Scalar *yě*. Stress becomes even more crucial to anchor the scalar reading, when the phrase carries ambiguity between scalar and non-scalar interpretations, as illustrated in (25):

- (25) *Zhè-ge háizi shénme/SHÉNME dōu bú pà.*
 this-CL child what DOU not afraid
 a. Non-scalar reading: ‘There is nothing that this child is afraid of.’
 b. Scalar reading: ‘This child is not afraid of anything AT ALL-not even the scariest thing.’

Note that in (25), *dōu* is used instead of *yě* to accommodate both the non-scalar reading, as in (25a), and the scalar readings, as in (25b) and here *dōu* and *yě* are interchangeable. However, when stress is placed on the *wh*-phrase, it limits the interpretation to solely

the “not at all” reading, namely, the strong NPI reading we discussed earlier.

Meanwhile, stress functions similarly in sentences with *even*-denoting phrases, as shown in (26):

- (26) (*Lián*) ZHANGSAN *yě lái le*.
Even Zhangsan YE come PERF
‘Even Zhangsan has come.’

Note that *lián* ‘even’, as an inherently scalar element, can be omitted in (26). However, without a context, *yě* in the sentence without *lián* can potentially be interpreted as an additive particle, namely ‘also’. To uphold the scalar *even* reading, the speaker must stress the phrase *Zhāngsān*. Stress, therefore, plays a role similar to that of scalar focus marker *lián* in introducing the focused constituent with a scalar reading. Note that we diverge with Liu (2023a, 2003b) on the role of *lián* and stress: Liu denies the scalar semantics of *lián* and attributes the *even* semantics solely to the scalar presupposition of *yě* (2023a: 183). Following Xiang (2020), he treats *lián* as a pure focus marker. In contrast, we maintain that recognizing *yě* as scalar does not necessitate denying the inherent scalar nature of *lián*. In our view, both elements possess scalar properties, albeit with structural distinctions, that we will elaborate on in section 4. The scalar nature of *lián* is intrinsically embedded, as evidenced by its behavior in sentences containing *dōu*, where the scalar interpretation (and as the only possible reading) remains unaffected even in the absence of *yě*. Secondly, we posit that stress serves a dual function beyond merely functioning as a focus marker, again different from Liu (2023b: 218). In our perspective, stress not only acts as a focus marker activating alternatives, but also associates with the scalar interpretation of the foci linked to Scalar *yě*.

Intriguingly, Krifka's observation (1995) regarding the diverse readings of English *any*, influenced by stress, aligns with the role of stress in the scalarization process in Mandarin. Krifka notes that in a sentence like “I don’t have any potatoes” when *any* is unstressed, it can be used instead of “I don’t have potatoes”. However, when it is stressed, *any* in the sentence takes on the “not at all” reading, indicating a strong NPI reading with reduced tolerance to exceptions, which Krifka, attributes to the induced “widening of the extension”. Following the same line of thought, Liu (2023a) proposes that the combination of a *wh* phrase and Scalar *yě* introduces a total-order scale involving “domain widening”. As observed here, the scalar *wh*-phrase needs to be stressed, akin to the stronger sense of *any*. I will provide a brief overview of Liu's argument here.

On the basis of Z. Yang's (2019) findings, Liu (2023a: 203) presents a compositional analysis of *wh-yě* constructions. He argues that Scalar *yě* imposes a strict scalar presupposition, necessitating contextually relevant alternatives to be “totally ordered” (cf. Chierchia, 2013:153). This total order presupposition mandates that any two subdomain alternatives must be comparable. Furthermore, Liu (2023a: 206-210) argues that in instances involving a *wh*-phrase, the total order presupposition can be achieved by introducing a two-point scale that involves domain widening. This treatment aligns with the analysis of *wh*-exclamatives by Zanuttini and Portner (2003)

and *wh*-the-hell phrases by Den Dikken and Giannakidou (2002). Badan and Cheng (2015) also discuss a similar analysis concerning Mandarin exclamatives. To illustrate this, consider (27), adapted from (17).⁵

- (27) *Shéi* **(yě)* *bú* *huì* *guài* *nǐ*.
 who YE not will blame you.
 ‘No one (=EVEN the most likely person to blame you) will not blame you.’

In (27), the *wh*-phrase in focus is responsible for generating the subdomain alternatives, encompassing all the possible individuals who would blame you. Domain widening happens in this context in the manner that equals adding one alternative, often with the most negligible probability, into a larger domain *D*, typically not initially considered in the quantificational domain *D'* of the *wh*-phrase. Consider (27), where the domain widens by including an extreme scenario alternative: even the person who habitually criticizes your actions (thus, the least likely individual not to blame you for your wrongdoings) will not blame you. This is vividly demonstrated by the *even* denotation, as shown in (27). Consequently, the total order scale required by Scalar *yě* can be established due to the entailment relation between *D* and *D'*. Following Liu (2023a: 206), the two-point scale evoked by (27) can be formally represented as (28), where *C'* is a subset comprising all subdomain alternatives produced by the focus semantics value of *wh*-phrase.

- (28) $g(C') = \{\forall x \in D'[\text{person}(x) \rightarrow \neg \text{blame}(x)], \forall x \in g(D)[\text{person}(x) \rightarrow \neg \text{blame}(x)]\}$,
 where $D' \subset g(D)$

Liu’s introduction of domain widening to understanding the scale associated with Scalar *yě* has several advantages. Firstly, it offers an alternative explanation for the negative bias observed in *wh-yě* constructions. This builds on the work of Jeong and Roelofsen (2022), who drew on van Rooij’s (2003) research on minimizers. Liu provides a straightforward reasoning for this correlation:

“Specifically, we propose that pragmatic reasoning on the speaker’s act of widening $Q_{D'}$ leads to the inference that the speaker believes a negative answer to $Q_{D'}$. This negative inference would then clash with a positive universal statement, and thus *wh-ye* through domain widening prefers to appear in negative sentences.”
 (Liu 2023a: 208)

Furthermore, we propose that domain widening occurs in all sentences involving Scalar *yě*, where an *even*-reading is obtainable. This includes sentences incorporating a minimizer, a superlative, and a *lián*-phrase, as well as those structured as *wh-yě* sentences. The domain widening analysis also addresses an observation made by Z. Yang (2020: 115-119) that the use of Scalar *yě* necessitates not only a clear scale but

⁵ Here for the sake of introducing Liu’s argument, we will only provide the reading for (27) adopted in Liu (2023). As discussed earlier, we believe that *wh* in (27) can entail two readings based on two different types of alternatives it evokes: one related to the subdomain alternatives as discussed by Liu, and the other related to quantity-based alternatives.

also the presence of its extreme endpoint. We can now view the focus particle *lián*, introducing this extremity, as the lexical manifestation of domain widening by including the utmost degree within the expanded domain. Likewise, the placement of stress on the *wh* phrases in these scalar *wh-yě* sentences could also be regarded as a prosodic indication of domain widening, given that the lexicalized marker *lián* cannot cooccur with *wh*-phrases, as noted by K. Yang (2002), Z. Yang (2019: 169) and Liu (2023b: 254). The pragmatic implication resulting from domain widening—specifically, the addition of the least possible alternative to the domain—can also explain the pragmatic effect associated with using Scalar *yě*, such as the “out of expectation” effect discussed by Yuan (2004) and Liu (2023b: 243).

2.3 Modal *yě* with a concessivity presupposition

Across languages, additive particles show their versatility: In some contexts, they can function as focus particles, conjunctions, or adverbs, while in others, they lose their literal meaning and instead convey the speaker’s attitude, assuming a role as a modal particle (for a comprehensive discussion, see König 1991:173). In addition to the two uses discussed earlier, *yě*, in some contexts, can be effectively regarded as a modal particle, conveying the speaker’s evaluation of, or attitude towards, the meaning conveyed by the proposition. Sentence (4) provides an illustration in which *yě* softens the utterance and its absence results in a tone perceived as “too direct” or “impolite” (Hou 1998: 620; Liu et al. 2001:246; Lü et al. 2010: 597). As with other modal particles, the exact meaning or function of this *yě* is difficult to pinpoint due to its context dependence and varied pragmatic functions. Based on Hole (2004: 41), Z. Yang (2020: 135-142) summarizes three types of contexts where this Modal *yě* is often used, namely, the “criticism” context, the “acceptance” context, and the “denial” context, as illustrated in sentences (29)- (31), respectively.

(29) *Nǐ yě/ *dōu tài jiāoqì le,*
 you YE/DOU too squeamish SFP
shuō nǐ liǎng-jù jiù kū.
 say you two-CL then cry
 ‘You are (a little bit) too squeamish. You cry simply because I say something about you.’

(30) *Nà-jiàn shì yě/ *dōu jiù suàn-le,*
 that-CL thing YE/DOU then let.it.pass
nǐ búbì zǒng guà zài-xīn-shang.
 you no.need always hang at-heart-on
 ‘Let us just let that thing pass. You do not need always to put it in mind.’

(31) *Wǒ yě/ *dōu méi chī shénme bù gānjìng-de,*
 I YE/DOU not eat what not clean- ATTR
zěnmē huì shíwù zhōngdú ne?
 how be.possible food poisoning SFP
 ‘I did not eat anything that was not clean. How is it possible to suffer from food poisoning?’

As is clear from the above sentences, Modal *yě* stands out distinctly from the other two. We previously noted that, prosodically, Modal *yě* is frequently employed without stress and can even be pronounced with a neutral tone in spoken Mandarin. This tendency typically emerges when a lexical word undergoes grammaticalization (for a detailed discussion on the effect of a neutral tone in Mandarin, see Wiedenhof 2015: 254). Contrary to Additive *yě*, Modal *yě* lacks substantive meaning, as is evident from the translations provided in (29)-(31). Moreover, unlike Scalar *yě*, the omission of Modal *yě* causes no grammaticality repercussions. Additionally, unlike what is the case with Scalar *yě*, the particle *dōu* is not interchangeable with Modal *yě*, as demonstrated in (29)-(31). Notably, the interpretation of Modal *yě*, varies depending on the context, again setting it apart from the other two *yě*s, which have a more context-independent interpretation. As discussed by Z. Yang (2020: 141), pragmatically, Modal *yě* is used to soften criticism in (29), express a reluctance in acceptance in (30), and allow room for denial in (31).

However, in this paper, we argue for a unified function for Modal *yě* in the various contexts: The use of Modal *yě* consistently activates an alternative perspective that presents an adversarial, or, at the very least, a divergent scenario in relation to the current proposition. We will show how the introduction of Modal *yě* establishes a concessive relation between the activated alternatives and the current proposition.

Take (29) as one illustrative example. Let us begin by providing the context in which the speaker delivers this statement: The speaker criticized the addressee for being excessively sensitive, drawing from a specific incident mentioned in the subsequent context, where the addressee burst into tears while the speaker merely voiced mild disagreement. This accusation of excessive sensitivity is further intensified by adding the intensifying construction *tài...le* ‘too, excessively’. The speaker apparently was aware of the forcefulness of this potent assertion. Consequently, Modal *yě* was introduced to neutralize or temper the severity of the criticism. This introduction of *yě* serving the pragmatic purpose of mitigating the forcefulness of the speaker's assertion is clear. Yet, the precise mechanism by which Modal *yě* achieves this pragmatic objective warrants further exploration.

We argue that the pragmatic effect of Modal *yě* aligns with the presupposition of concessivity inherent in this modal particle. In the case of (29), it presupposes an alternative scenario: usually, if someone cries for a valid reason (like being yelled at or subjected to severe criticism), the speaker will not deem this reaction as being overly sensitive. If the condition part in the presupposition, i.e., “crying for a good reason,” is represented as *p*, and the conclusion part, which presents a different judgment in such a scenario, can be construed as the negation of the prejacent of *yě*, which translates to $\neg q$, then the presupposition can be formally reduced to “ $p \rightarrow \neg q$ ”. This closely aligns with the presupposition of a concessive construction, as defined by König (1991) and König and Siemund (2000: 341-360). The fact that the concessive relation is presupposed becomes evident, through a similar test, namely, by placing the proposition in a yes-no question. This test demonstrates that the introduction of the

concessive alternative remains unaffected when we question a Modal *yě* sentence, as illustrated in (32):

- (32) *Nǐ shì-bu-shì yě tài jiāoqì le,*
 you whether.or.not YE too squeamish SFP
shuō nǐ liǎng-jù jiù kū.
 say you two- CL then cry
 ‘Aren’t you (a little bit) too squeamish (even though in typical cases, I don’t deem crying as too squeamish)? You cry simply because I say something about you.’

It is worth noting that our analysis of Modal *yě* aligns seamlessly with Hole’s treatment of a specific set of sentences where *yě* (which Hole categorizes as parametric *yě*, akin to our Scalar *yě*) is used in concessive sentences. One of his examples is (33) (from Hole 2004: 228):

- (33) *Suīrán méi xià-yǔ,*
 although not fall-rain
*Lǎo Lǐ yě / *dōu dài-zhe sǎn.*
 Old Li YE/DOU take- PROG umbrella
 ‘He took along an umbrella although it was not raining.’

According to Hole, (33) also presupposes a “ $p \rightarrow \neg q$ ” type of proposition, as stated in (34):⁶

- (34) Presupposition of the concessive construction
 ‘Usually, if it does not rain, Old Li does not take an umbrella along.’

Based on the parallel behavior observed between sentences with overtly a concessive construction and sentences with Modal *yě*, we have reasons to argue that *yě* in concessive sentences like (33) should be subsumed under the modal use of *yě*. Another supporting observation favoring the modal interpretation is that *dōu*, which is often an alternative to Scalar *yě*, is blocked in these concessive sentences as illustrated by (33) (also discussed by Hole 2004: 228). This restriction aligns with the behavior observed across all Modal *yě* sentences: *dōu* cannot interchange with Modal *yě* in the sentences in (29) to (31). The only difference between sentences like (33) and typical Modal *yě*

⁶ Hole contends that the *p* part in a concessive construction could be treated as a C(ontrastive)-topic-like focus. Therefore, the presupposition could be related to (or be combined with) another alternative which, this time, changes the polarity of *p* while having the *q* part untouched, i.e., $\neg p \rightarrow q$, as is illustrated in (a):

(a) ‘If it had rained, Old Li would have taken along an umbrella.’

The conditional part in (a) constitutes a counterfactual (or “would be true”) alternative evoked by the C-topic, i.e., the concessive subordinate clause in (33). This alternative satisfies the existential presupposition of *yě* (see the detailed discussion by Hole 2004: 225-228).

sentences is that the concessive relation is explicitly spelled out in (33). In fact, all Modal *yě* sentences can also be reformulated as complex sentences with an explicitly stated concessive subordinate clause, showcased in (35) (adapted from Yang 2020: 144):

- (35) *Jíshǐ/suīrán hěnn-duō rén shòudào yánlì*
 even.if/although many people receive sharp
pīpíng shí huì kū, nǐ yě tài jiāoqì le.
 criticism when will cry you YE too squeamish SFP
 ‘Even if/ although many people will cry when they receive sharp criticism, you are a little bit too squeamish.’

Note that the pragmatic effect of scaling down the degree of the speaker’s commitment by adding Modal *yě*, which introduces the concessivity presupposition, as we argue here, can be captured by the phrase “a little bit” in the English translation.

2.4 Summary

In this section, we have discussed the semantic differences between the three *yě*s. We have seen that these disparities are rooted in the presuppositions they impose. These presuppositions govern the relationship between the prejacent proposition, and the alternatives invoked within the given contexts. As such, Additive *yě* carries an additivity presupposition, necessitating an explicit antecedent with the same argumentative orientation. Scalar *yě* entails a scalarity presupposition, in which it ranks all alternatives on a totally ordered scale, pragmatically including domain widening in all contexts. Lastly, Modal *yě* introduces a concessivity presupposition, evoking an alternative that describes a contrasting scenario and establishes a concessive connection with the prejacent proposition. The observable differences between the three *yě*s that we have discussed thus far can be consolidated and presented in Table (1).

	Stress	Omittable	In need of Antecedent	Interchangeable with <i>dōu</i>	Semantic Contribution
Additive <i>yě</i>	+/—	+	+	—	Similarity
Scalar <i>yě</i>	—	—	—	(+%)	Scalarity
Modal <i>yě</i>	(+%) /— /Neutral tone	+	—	—	Concessivity

Table (1): Differences between three *yě*s. A “+” indicates the presence or the affirmation of the feature, (+%) indicates that its distribution is limited, or native speakers have inconsistent judgments, while a “—” signifies the absence or negation of the attribute.

Despite these discernible differences, it is noteworthy that what they have in common is that all three require the existence of alternatives, whether they are actual or hypothetical alternatives. This shared existence presupposition, applicable to all types of *yě*, has also been observed by Hole (2004: 228): “It is presupposed that at least one of these (pragmatically relevant) alternatives is true, or would be true.” In a similar vein, Chen (2008: 75), Z. Yang (2020:126), and Liu (2023b:158) have noted that the concept

of additivity, or the presence of an alternative option, appears to be an integral component of scalarity.

In the following section, we will focus on the syntactic aspects of the three *yě*s. We will demonstrate that from a syntactic perspective as well, they should be distinguished.

3. *The syntax positions of the three yěs*

In this section, I will present cartographic evidence to show that each of the three *yě*s is associated with its own position in the syntax.

3.1 *The position of additive yě*

We propose that Additive *yě* resides in the IP domain. One piece of evidence supporting this idea is based on the observation that the placement of Additive *yě*, aligning with the behavior of deontic modals, impacts the interpretation of an indefinite subject's specificity (cf. Tsai 2010, 2015). To illustrate, let us consider (36).

- (36) a. *Zhècì yǒu liǎng-ge xuésheng yīnggāi^{deontic} / yě lái.*
 this.time exist two- CL student ought.to/also come
 ‘The two (specific) people ought to come this time.’
 b. *Zhècì yīnggāi^{deontic} / yě yǒu liǎng-ge xuésheng lái.*
 this.time ought.to /also exist two- CL student come
 ‘Two (nonspecific) students ought to come this time.’

Considering Diesing's (1992) Mapping Hypothesis and Tsai's (2001) Extended Mapping Hypothesis, we discern two subject positions for indefinite NPs: the higher one, the “outer subject” in Tsai's terms, occupies [Spec, IP], while the lower one, or the “inner subject”, resides in the [Spec, *v*P] position. The outer subject typically conveys a specific reading, whereas the inner subject conveys a non-specific reading. Analyzing the impact of the deontic modal on the interpretation of the indefinite NP, Tsai (2015a: 257) deduces that the deontic modal occupies a position higher than the inner subject but lower than the outer subject. Likewise, when considering the behavior of Mandarin Additive *yě* in example (36), we arrive at the same conclusion: Mandarin Additive *yě* functions as an IP adverb, positioned below the outer subject position, i.e., [Spec, IP], but above the inner subject position, i.e., [Spec, *v*P].

As additional evidence, we observe that placing Additive *yě* in a different position relative to certain adverbs, has consequences for the interpretation of the adverbs in question, namely whether they are interpreted as CP or as VP adverbs (cf. Ernst, 2004: 42). This is exemplified in (37), adapted from Z. Chen (2016: 44):

- (37) a. *Rùnrún yě cōngmíng-de pǎo-jìn-le jiàoshì.*
 Runrun also cleverly run-into- PERF classroom
 ‘Runrun has also cleverly run into the classroom.’
 b. *Rùnrún cōngmíng-de yě pǎo-jìn-le jiàoshì.*
 Runrun cleverly also run-into- PERF classroom
 ‘Cleverly, Runrun has also run into the classroom.’

As demonstrated in (37), when *yě* is positioned before the adverb *cōngmíng-de* ‘cleverly’, the adverb in (37a) takes on a manner reading, thus placing it within the *vP/VP* domain. However, when *yě* is inserted after *cōngmíng-de* ‘cleverly’, *cōngmíng-de* ‘cleverly’ is interpreted at least as high as a subject-oriented adverb, or even higher as an evaluative adverb involving the speaker’s judgment, as in (37b).⁷ This observation reinforces our analysis that Additive *yě* functions as an IP adverb. Consequently, the same adverb gets a clausal reading when it appears higher than Additive *yě* and a *vP/manner* reading when it appears structurally lower.

The last piece of evidence in support of the IP position of Additive *yě* comes from the observation that Additive *yě* consistently occupies a higher syntactic position than all root modals and their corresponding adverbs, regardless of whether they express necessity or possibility (see more tests in Z. Yang 2020: 79-89, based on Lin 2012, Butler 2003, and Cinque 1999). Here are two illustrative examples, presented as (38) and (39):

- (38) *Nǐ yīnggāi duō shuō, {yě} yīnggāi {*yě} duō tīng.*
 you ought.to more speak also ought.to also more listen
 ‘You ought to speak more and also listen more.’
- (39) *Zhāng Sān néng qù Běijīng,*
 Zhang San be.able.to go Beijing
*Lǐ Sì {yě} néng {*yě} qù Běijīng.*
 Li Si also be.able.to also go Beijing
 ‘Zhang San is able to go to Beijing, and so does Li Si.’

3.2 The position of Scalar *yě*

Scalar *yě*, different from Additive *yě*, takes up a position in the CP domain. Liu (2023a) assumes that Scalar *yě* exerts its scope across the entire matrix sentence. Consequently, in (40) (from Liu 2023a: 196), scalar *yě* is interpreted in a higher position than the *wh*-phrase, which serves as the external argument of the unergative verb *shuōhuà* ‘speak’, even though it is situated in a lower position in the surface structure, as depicted by the LF representation in (40b). Note that EXH_C^{EXH} represents the process of how exhaustification converts the *wh*-sentence into a universal statement.

- (40) a. *Shéi yě bù shuōhuà.*
 who YE not speak

⁷ I would like to thank Shi Dingxu and Zhang Qingwen for raising questions regarding adverbs like *cōngmíng-de* ‘cleverly’, typically categorized as subject-oriented adverbs (cf. Z. Chen 2016). It has been noted that a more nuanced classification is needed for adverbs falling under this category. For instance, Ernst (2004: 54) points out semantic distinctions between “agent-oriented” adverbs like *cleverly* and those expressing “mental attitude”, such as *calmly*; Z. Chen (2016) and Z. Cheng & Y. Li (2021) illustrate syntactic differences between two types of subject-oriented adverbs in Mandarin: the “subject-oriented” adverbs like *cōngmíng-de* ‘cleverly’ and “subject-depictive” adverbs *qìhuhu-de* ‘angrily’. Through personal communication with Chen, we have agreed that adverbs, like *cōngmíng-de* ‘cleverly’ in many sentences, take on an even higher interpretation, assuming an evaluative role like an evaluative adverb. In doing so, it expresses the speaker’s assessment of the agent’s action as being clever.

‘Nobody speaks at all.’

- b. LF: [$y\check{e}_C^{\text{SCALAR}}$ [D_F [3 [$\text{EXH}_C^{\text{EXH}}$ [$\text{Who}_{[t]_F}$ [NEG speak]]]]]]]

The higher positioning of Scalar $y\check{e}$ in the CP becomes apparent when considering its possible placement above certain speaker-oriented adverbs, for instance, the evaluative adverb *búxìng* ‘unfortunately’, demonstrated in (41) (cf. Paris 1998: 143), and the epistemic modals *yīnggāi* ‘it must be the case that...’, shown in (42) (cf. Z. Yang 2020: 95-99).⁸

- (41) *Lián Zhāngsān {yě} búxìng { *yě} qùshì-le.*
even Zhangsan YE unfortunately YE die- PERF

‘Unfortunately, even Zhangsan died.’

- (42) *Tā wúlùn yù-dào shénme kùnnan,*
he no.matter encounter what difficulty
{yě} yīnggāi { ? yě} huì jiānchí-xiàqu.
YE should YE will carry.on

‘No matter what difficulties he may encounter, it should be the case that he will carry on.’

Therefore, based on the observation in (41) and (32), Scalar $y\check{e}$ should also be positioned in the CP domain since it occurs higher than the clausal adverb and modal.

3.3 The position of Modal $y\check{e}$

As previously discussed, Modal $y\check{e}$ can be pronounced with a neutral tone, signaling the possible grammaticalization it has undergone. In this process of grammaticalization, the original meaning of the particle has been lost, and a subjective flavor of speaker evaluation has replaced it. Consequently, in accordance with the idea developed in Roberts and Roussou (2003) that grammaticalization involves a climb to higher positions in the structure of the sentence, Modal $y\check{e}$ is presumably structurally high, that is, at least in the CP domain.

Support for this positioning comes from the interaction between certain speaker-oriented adverbs and Modal $y\check{e}$ (and Scalar $y\check{e}$). For instance, modal $y\check{e}$ can be used before *wèimiǎn*, a speaker-oriented adverb meaning something like ‘inevitably’, or ‘(based on contextual evidence) It is not possible for the speaker to avoid concluding that ...’ (Hou 1998: 579). In this sense, *wèimiǎn* could be taken as an evidential adverb.⁹ Consider (43) from Hou:

⁸ Note that native speakers have inconsistent judgement on the acceptability of scalar $y\check{e}$ in its lower position in (42). We believe a lower $y\check{e}$ in (42) is accepted when it takes on an additive meaning. This finds support in the observation that placing stress on the lower $y\check{e}$ improves its acceptability, which is a sign of its additive use, as discussed earlier.

⁹ In distribution, *wèimiǎn*, literally, ‘not avoid’, in alignment with the modal $y\check{e}$, often appears alongside the construction *tài...le* ‘too’ or *guòyú* ‘excessively’ which are used to intensify the degree (Hou 1998: 579). On this basis, Z. Yang (2020: 78) argues that *wèimiǎn* carries a similar pragmatic effect with modal $y\check{e}$. However, it is clear that this adverb also adopts an “evidential” nuance, suggesting that all the evidence or information in the current context inevitably leads to the speaker’s judgment. In contrast to Z. Yang (2020), we argue here that *wèimiǎn* is different

- (43) *Zhè-wèi Lǐ dàgē yě wèimiǎn rèqíng de guòdù.*
 This-CL Li brother YE inevitably enthusiastic DE overly
 ‘This Brother Li tends to be (a little bit) overly enthusiastic.’

Furthermore, the evidential *zhēn* meaning ‘truly’ or ‘provenly’, as examined by Hole (2023: 249) to assess the position of the modal use (or his “emphatic”) *cái*, demonstrates its occurrence after Modal *yě*. However, it cannot be used after Scalar *yě*, as illustrated in (44) and (45):¹⁰

- (44) *Nǐ (?zhēn) yě zhēn tài xiǎokàn rén le.*
 you provenly YE provenly too belittle person SFP
 ‘You are provenly underestimating people a bit too much.’
 (45) *Tā zhēn lián jīròu yě (*zhēn) bù chī.*
 he provenly even chicken YE provenly not eat
 Intended: ‘Provenly, he does not even eat chicken.’

A relevant interesting language fact in support of the CP position of Modal *yě*, noted by some of our language consultants, is that, in spoken Mandarin, Modal *yě* can appear at the end of sentences, even after the sentence final particle *ba*, as illustrated by (46) and (47).¹¹

- (46) *Nǐ tài bèn le ba yě.*
 you too stupid SFP SFP YE
 ‘You are too stupid, aren’t you?’
 (47) *Nǐmen hē tài duō le ba yě.*
 you drink too much SFP SFP YE
 ‘You all drank too much, didn’t you?’

Combining the earlier survey on the positions of Additive *yě* and Scalar *yě* with the findings here, we can conclude the following hierarchy:

(48) The positions of three *yě*s:

from modal *yě* in its core semantics.

¹⁰ Thanks to Hans Kamp for bringing up the question about the “evidentiality” aspect of *zhēn*. There are indeed two readings for *zhēn*, one is depicted (44) and (45) with the sense of “proven” or “truly”, closely tied to the source of information or evidence, and the other as “really”, serving as a degree intensifier (cf. Hou 1998: 739-740).

¹¹ Interestingly, the sentence-final particle *ba* has a similar pragmatic effect to modal *yě*, i.e., they both weaken a strong assertion or accusation and leave room for negotiation and doubt (cf. Li 2006: 35). It would be interesting to explore the possible connection between the modal particle/adverb and the sentence-final particle sharing similar function, which sometimes cooccur in one sentence. As a case to the point, see how Tsai and C. Yang (2022: 440) from a syntactic perspective establish the connection between mirative adverbs and sentence-final particle *a*.

Modal *yě* > Evi(dential)P > Scalar *yě* > Epi(stemic)P > Eva(luative)P > TP > Additive *yě*

It is worth noting that evidential adverbs are structurally higher than epistemic adverbs, according to tests executed by previous scholars (e.g., Cinque 1999: 106 for a universal hierarchy; Z. Yang 2020: 89; Tsai and C. Yang 2022: 435 on Mandarin). Our survey findings here also support this conclusion. Meanwhile, based on Z. Chen's (2016: 20-26) cartographic investigation, the position of evaluative adverbs such as *xìngyùn-de* 'luckily' in Mandarin presumably occupy a lower position compared to evidential and epistemic adverbs/modals, which is different from the Cinque's proposed hierarchy.

In this section, we have extensively explored the syntactic placement of the three *yě*s, establishing that they occupy distinct syntactic positions. Specifically, Additive *yě* is an additive focus adverb within the IP domain, while both Scalar *yě* and Modal *yě* are positioned higher in the CP domain, with Modal *yě* as a modal adverb residing higher than its scalar counterpart.

In addition to the positional differences, it is clear that Scalar *yě* is syntactically more dispensable compared to the other two, as concluded in Table 1. In the following section, we will propose that, different from the other two, Scalar *yě* should be treated as a functional head.

4. Scalar *yě* as a functional head

4.1 The ScalP

As previously shown, Additive *yě* exhibits its sensitivity to focus by behaving like a standard additive adverb. When excluded from the sentence, the sentence is still grammatically fine, but the coherence related to additionality in meaning or discourse is compromised. Similarly, removing Modal *yě*, a modal adverb like others (e.g., *wèimiǎn*), only results in pragmatic loss, yet the sentence remains grammatically sound. Diverging from these two, Scalar *yě* demonstrates properties that may be attributed to its head-like nature. Firstly, as a grammatical marker, Scalar *yě* can never be stressed, a trait which the other two uses do not share. Secondly, its presence is obligatory, it is never optional, again setting it apart from the other two *yě*s. Thirdly, Scalar *yě* behaves like a focus head, consistently requiring a preceding focused phrase, i.e., a *lián*-phrase or a *wh*-phrase, as its dependent constituent. As discussed in section 2.2 above, beyond its focus attribute, Scalar *yě* also carries a scalarity feature, imposing a semantic selection requirement on its dependents, i.e., their interpretation must be scalar as well.

Motivated by the close interaction between the preceding focus and Scalar *yě*, Hole (2017) argues that the preceding constituent, for instance, the *lián*-phrase, and Scalar *yě*, establish a Spec-Head relationship within the ScalP. Scalar *yě* functions as the head, signaling that the EVEN-focus is quantified as "much."¹² The object *lián*-foci, when functioning as an object, undergoes movement to occupy the specifier position of the head, facilitating agreement with the head itself. Notably, according to Hole, the position of this ScalP, is higher in the syntactic hierarchy than TP or AspP. Building

¹²Interestingly, as noted by Hole (2015, 2017, 2023), there exist two variants for the ScalP, one headed by SCAL_{LITTLE} (e.g., *cái* in Mandarin) for the ONLY-foci, and the other variant is headed by the SCAL_{MUCH} for EVEN-foci, which is instantiated by the scalar *yě* in Mandarin.

upon this Spec-Head framework, Z. Yang (2020: 123) extends this approach to all instances involving Scalar *yě*. He argues that when the scalar focus marker *lián* is not overt in the sentence (e.g., those with a *wh*-phrase or a disjunctive phrase), a phonetically empty yet semantically active operator labeled as \emptyset_{even} is present, serving exactly like the scalar focus particle *lián*.

In his recent response to Sun's (2021) bipartite analysis of the *zhǐyǒu...∅_{EXCL}* construction, Hole (2023) effectively upholds the Spec-Head analysis on the ScalP. Moreover, he introduces a featural account within the framework of Pesetsky and Torrego (2007). This framework allows features to exhibit four possible combinations along the dimensions of valued-unvalued and interpretable-uninterpretable. Take (49a) as an example, the scalarity head *cái* is characterized by an interpretable but unvalued scalarity feature, along with an EPP feature. The *zhǐyǒu*-foci, on the other hand, possess a valued but uninterpretable scalarity feature along with an uninterpretable ONLY feature (which is associated with the exclusive meaning of ONLY-Focus and interacts with a phonetically empty exclusive operator, as noted by Sun (2021)). They undergo movement (potentially triggered by EPP) towards, or through, the specifier position of the ScalP for valuation of the SCAL feature, as illustrated in (49b) (from Hole 2023: 257):

- (49)a. *Akiu zhǐyǒu niúròu cái chī.*
 Akiu only beef CAI eat
 'Akiu eats only beef.'
- b. [ScalP [Scal' **Scal**⁰_{[iSCAL(),EPP]...} [vP/TP...[QP **Q**⁰_[uONLY(+),uSCAL(+)] **XP_F**]]...]]

The featural account provided by Hole harmonizes effectively with Mursell's (2021: 237) proposal regarding configurations for the elements involved in information structure, particularly within focus constructions. In his analysis, the head of the Foc(us)P present in the left periphery of the phrase (vP for the low FocP; CP for the high one, accompanied by a dislocated focus constituent) carries a set of unvalued but interpretable focus features. The interpretable focus features serve as the foundation for projecting the FocP. The low FocP denotes the general new information focus, just like our Additive *yě*. At the same time, the high FocP encodes more emphatic nuances such as contrastive, corrective, or even mirative meaning (Mursell 2021: 40-41; cf., Belletti 2004, on Italian; Issah 2019, on Dagbani). On the other hand, the focused constituent carries a valued focus feature [uFoc:val], but this feature remains uninterpretable since focus, in general, does not impact the truth conditions. The interpretable unvalued focus features in the Foc-head can be bundled with other features, such as ϕ -features. Drawing from the analyses of Hole and Mursell, the ScalP can be perceived as one particular type of high FocP within the CP domain (it is even higher than epistemic modals, according to our survey). It is headed by Scal⁰ with a complex feature: the interpretable yet unvalued scalarity feature [iScal:()] serves as its specific information-structural attribute, complemented by the EPP feature, which triggers movement.¹³

¹³ The structural status of *lián* will not be addressed within the scope of this paper. As one

Building on Hole’s analysis, the LF structure of (40) (here as (50a)) with a scalar *yě* can be spelled out as in (50b):

- (50) a. *Shéi yě bù shuōhuà.*
 who YE not speak
 ‘Nobody speaks at all.’
 b. [ScalP [Scal’ YE⁰_{[iSCAL(),EPP]..} [TP...[QP SHEI⁰_[uSCAL(+)] [VPNEG [SHUOHUA]]]]]]

4.2 Interchangeability and cooccurrence between Scalar *yě* and *dōu*

Previously, we noted that the Scalar *yě*, once again different from the other two, can often be substituted by *dōu*. We have no intention to delve extensively into the discussion of *dōu* here. For a comprehensive review of the study of *dōu*, we refer to Cheng (2017) and Feng and Pan (2023). However, in the context of one of the main points of the current paper, we would like to draw attention to two significant observations concerning *dōu*. The first observation revolves around the asymmetric interchangeability between *yě* and *dōu*. As previously discussed, *dōu* can nearly always function as an alternative to *yě* in various scalar/*even* contexts, as exemplified in (51).

- (51) *Shéi yě/dōu bù shuōhuà.*
 who YE/DOU not speak
 ‘Nobody speaks.’

However, *yě* cannot consistently serve as a substitute for *dōu*, particularly in a strictly free choice context, as illustrated in (52) (=19). In essence, the distribution of *dōu* is less restricted than that of Scalar *yě*.

- (52) *Wúlùn àn nǎ-ge jiàn dōu/*yě kěyǐ.*
 no.matter press which-CL key DOU/YE can
 ‘No matter which one you press will work.’ ‘As for these children, no matter which one is bright.’

As depicted above, *dōu* can be used in scalar and non-scalar contexts, whereas *yě* is exclusively found in scalar contexts. One possible exception, documented by Hole (2004: 201), pertains to sentences involving *zài-yě-bù* ‘never ever’, as in (53):

- (53) *Wǒ zài yě/*dōu bù qù le.*
 I once.more YE/DOU not gp SFP
 ‘Not even once I will go there.’

As illustrated in (53), *dōu* cannot be used in this evidently scalar context, deviating

possible assumption, in alignment with Mursell (2021), we can posit that the focus particle *lián*, which adjoins to the focused constituent, carries an unvalued and uninterpretable focus feature, i.e., [[uScal:()]]. This feature is uninterpretable simply because its semantic contribution does not directly arise from the focus itself but rather from the semantics intrinsic to the focus particle (e.g., *lián* has an inherently scalar semantics, as defined in section 2.2), as remarked by Mursell (2021: 237). Its value can also be provided by the focused constituent in its c-command domain via agreement.

from the observed pattern. This divergence, in one way, reinforces our assertion that *yě* is closely linked to scalarity, unlike *dōu*. Additionally, we need to elucidate why *dōu* cannot substitute *yě* in this instance. One assumption could be that the *even-focus* *zài* ‘once more’ and Scalar *yě* have undergone a process of grammaticalization and lexicalization. This results in the merging of the two formerly independent elements *zài-yě* into a singular “frozen” combination *zàiyě* (cf. Hopper and Traugott 2003: 51), constituting a new adverb denoting “never ever”. The fact nothing can be inserted between the two components substantiates this claim. Moreover, alongside the lexicalization, observable phonological erosion or assimilation has taken place. For instance, in spoken Chinese, the pronunciation of *yě* within this configuration might adopt a neutral tone or even undergo partial or complete elision, as documented by Hou (1998: 717). (Also cf. Fang 2018 on the lexicalization of *shuō-shì* to *shuōshì*, and Z. Yang 2023 on other “frozen” combinations in Mandarin).

The second intriguing observation, acknowledged by some scholars but requiring more attention (Sugimura 1992; Z. Yang 2020: 156; Liu 2023b: 176), pertains to the co-occurrence of *yě* and *dōu* in one sentence, with *yě* preceding *dōu*. Consider (54), drawn from real-life data by Liu (2023b: 176):

- (54) (*Rénmen*) *zài píláo hé kēshuì shí, jiù zhǐ xiǎng xiūxi,*
 people at tired and sleepy when simply only want rest
shuìmián, duì shénme yě dōu bú huì qù zhùyì.
 sleep to what YE DOU not will go pay.attention
 ‘When people are tired and sleepy, they only want to rest and sleep, and they won’t pay attention to anything at all.’

Liu (2023b) points out that the semantics of (54), containing both *yě* and *dōu*, doesn’t differ from using either one alone. Our consultation with native speakers affirms that incorporating both elements in one sentence with scalar meaning is indeed acceptable, as illustrated in (55) and (56):

- (55) *Lián guówáng yě dōu lái-le,*
 even king YE DOU come- PERF
 ‘Even the king came.’
- (56) *Shéi yě dōu bù shuōhuà.*
 who YE DOU not speak
 ‘Nobody speaks at all.’

Crucially, in the above sentences, there appears to be a strict order between *yě* and *dōu*—specifically, *yě* must precede *dōu*. The rigid ordering suggests the potential structural placement of *yě* higher than *dōu*. This assumption gains credibility, especially considering our observation that the two elements are licensed in different contexts and have different distributional scopes.

As mentioned above, we do not intend to conduct an exhaustive analysis on *dōu* here, but if we consider Scalar *yě* as a functional head, there is no compelling reason to treat *dōu* differently, at least in this context, given that it also displays all the head-like properties discussed earlier. Considering the observation made above, what we can

assume is that, different from *yě*, the head *dōu*, positioned lower, carrying a distinct semantic feature, can also work on unordered alternatives in non-scalar contexts. This feature could potentially relate to the exhaustification process necessary for obtaining the universal reading of *wh*-phrases, as elucidated by Liu (2023a) in the LF depicted in (40), reproduced here as (57):¹⁴

(57) LF: [$yě_C^{\text{SCALAR}}$ [D_F [3 [$\text{EXH}_C^{\text{EXH}}$ [$\text{Who}_{[t]_F}$ [NEG speak]]]]]]]

Liu argues that prior to Scalar *yě* being linked to subdomain alternatives, these alternatives have already undergone exhaustive consideration by the EXH operator. If we assign this EXH operator to a phrase headed by *dōu*, such as positioning it as an ExhP immediately beneath ScalP, we can explain, straightforwardly from a syntactic perspective, their cooccurrence and the broader distribution pattern where *dōu* appear less constrained than *yě*. Simply, the higher ScalP headed by *yě* inevitably encompasses the ExhP headed by *dōu*, creating a hierarchical relationship where *yě*'s scope naturally prevails over *dōu*'s, rather than the reverse. Put it differently, to access or reach the ScalP headed by *yě*, we must first engage with the ExhP headed by *dōu*. At the same time, however, this implies that whenever we intend to use Scalar *yě*, *dōu* can in principle be present from the outset, as an integral part in setting the stage for the ScalP. Certainly, substantiating this necessitates further data, especially considering the tendency in spoken Chinese to prefer one to both, which warrants an explanation. We will have to leave this for future research, but as a piece of supporting evidence, there are indeed instances where Scalar *yě* and *dōu* are both used, in which *dōu* is not merely optional. Consider (58), from Liu (2023b: 176), and (59), from Sugimura (1992: 167), where both *yě* and *dōu* are present in the original sentences:

- (58) *Shùxué dàshī Chén Xīngshēn yuànshì shuō: “Chūle*
 Math maestro Chen Xingshen Academician say exclude
*shùxué yǐwài, shénme shū yě *(dōu) ài kàn.”*
 Math except what book YE DOU love read.
 ‘Mathematics maestro, Academician Chen Shengshen, said: ‘Apart from mathematics, I love to read ANY kind of book.’
- (59) *Dàn shéi yě *(dōu) míngbai, zhè yīqiè jiāng yào fùchū*
 but who YE DOU understand this all will need pay
duōdà de dàijià.
 how.big ATTR price
 ‘But everyone, without any exception, understands the magnitude of the price that will have to be paid for all of this.’

It appears that in (58) and (59), the acceptance of Scalar *yě* is notably higher when

¹⁴ The connection between *dōu* and exhaustivity has been previously established (e.g., Cheng 2009; Cheng & Giannakidou 2013; Xiang 2008, 2020, among others). In contexts where *dōu* is licensed, exhaustification consistently occurs. For instance, it is obvious that exhaustification takes place in all sentences with a free-choice *wh*-phrase, and this exhaustivity can be lexically marked by *wúlùn* ‘no matter’, as discussed by Lin (1996), Cheng and Giannakidou (2006) and Tsai C.-Y. (2015). Moreover, exhaustification should be viewed as an integral component of *even* semantics. For instance, Karttunen and Peters (1979) define the scalar presupposition of *even* by comparing the prejacent proposition to **all** its contextually relevant F-alternatives.

accompanied by *dōu*. Omitting *dōu* renders the use of Scalar *yě* awkward or peculiar.

5. Conclusion

In this paper, we revisited three different instantiations of *yě* in Mandarin, reinforcing previous claims regarding their semantic and syntactic differences. Semantically, we showcased that each carries its unique presupposition, Additive *yě* an additivity presupposition, Scalar *yě* a scalarity presupposition, and Modal *yě* a concessivity presupposition. Syntactically, they occupy different positions: Additive *yě* resides within the IP domain; Scalar *yě* projects a ScalP within the CP domain, and the preceding scalar foci assign values to the head in a Spec-Head configuration; Modal *yě*, involving speakers' evaluation as it does, is positioned at the highest level. Considering these semantic disparities and different syntactic positions, we conclude that adopting a polysemic approach is imperative: The three variations of *yě* are indeed three distinct *yě*s.

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