

On the syntax of Mandarin sentence-final particles: a neo-performative analysis

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Abstract

Mandarin sentence-final particles have been analyzed uniformly as sentence-final complementizers by a group of researchers (Paul & Pan, 2017; Pan, 2019). However, in the present paper, I draw evidence from co-occurring sentence-final particles to demonstrate that in Mandarin, sentence-final particles must co-occur in a fixed order. This observation casts doubts on the assumption that these particles are complementizers because treating them as complementizers does not explain why they appear in a fixed order. Following Wiltschko (2020), I propose that these particles belong to different categories of the interactional structure. I focus my discussion on three representative particles, namely, ne 呢, me 么 and ha 哈. An analysis that assumes an interactional structure above CP can account for some poorly understood co-occurrence restrictions among these particles.

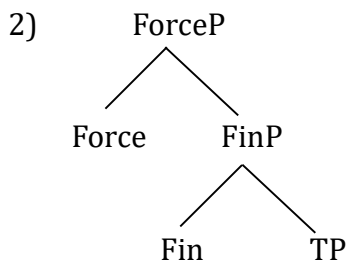
Key words: Mandarin sentence-final particles, interactional structure

1. Introduction

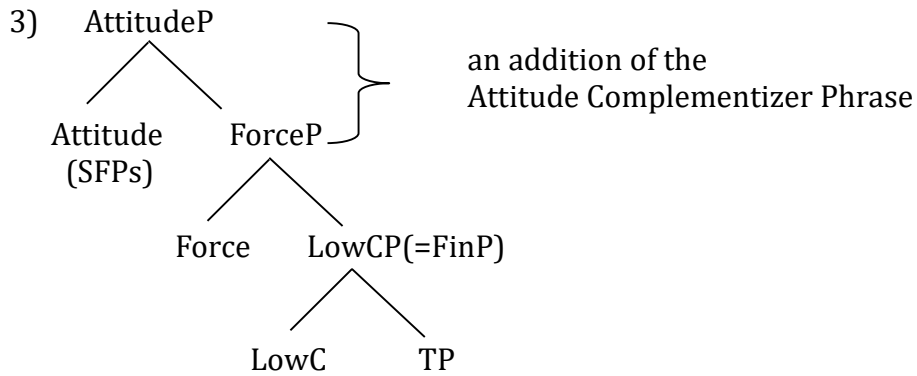
In Mandarin Chinese, the term ‘sentence-final particle’ has been used to describe a class of linguistic items whose categorial status is not clear (e.g. their functions depend on the specific extralinguistic context). Three examples containing sentence-final particles (SFPs) are given in (1a-c).

- 1) a. zhè dōngxi sānbaǐ yuán mǎi bù lái **ne**
 this stuff three-hundred CL buy NEG come particle
 “This stuff cannot be bought with three hundred Yuan (**believe me**).”
 (Lu, 1990, p. 264)
- b. Tā zìjǐ bù yào **me**.
 he self NEG need particle
 “He does not need (one) (**you should know this**).”
 (Lu, 1990, p. 270)
- c. Nǐ juéde zhème gàn duì **ha?**
 you think like.this do right particle
 “You think it is right to do this, **eh?**”
 (Yin, 1999, p. 99)

Traditionally, these particles are not considered as part of the sentence structure and hence have no syntactic category (Biberauer, Holmberg, and Roberts 2007, 2008, 2014). However, some recent work on sentence-final particles (henceforth SFPs) has argued that SFPs play a significant role in syntax (Li 2006; Pan 2014, 2017, 2019; Paul 2005, 2014; Paul & Pan 2017; among others). Building on Rizzi’s (1997) analysis of Complementizers (Cs) and their projections (CPs), which suggests that cross-linguistically the C system consists of two distinct categories, Force and Finiteness, (with optional Topic and Focus phrases in between) as shown in (2). Paul and Pan (2017) propose that the Mandarin C system consists of three subprojections LowC<ForceC<AttitudeC, with the addition of a speaker/hearer related projection (Attitude phrase) above Rizzi’s (1997) ForceP, as shown in (3).

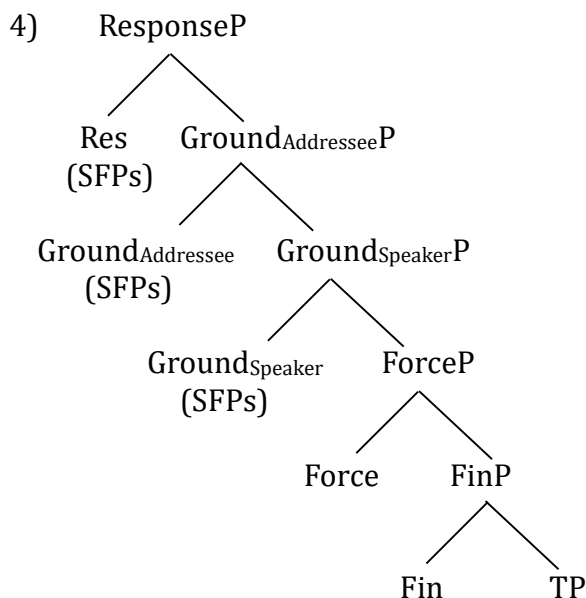


(Modified from Rizzi, 1997, p. 297)



According to Paul and Pan (2017), SFPs are fully-fledged functional heads on a par with C elements in Indo-European languages. SFPs realizing LowCs are comparable to Rizzi's FiniteP, the neutral label "LowC" is chosen because it is unclear whether the [+/- Finite] distinction applies to Mandarin (p.52). Mandarin SFPs that express a certain attitude such as *a*, *ei*, *ou*, *ma*, *ne*, *ba*, etc. are analyzed as the highest C head, Attitude (p.51).

In other work, SFPs have been argued to perform other syntactic functions. Wiltschko (2020) proposes that syntactic structure should not only represent the propositional content but should also represent interactions in discourse. On her view, SFPs are the units of language that represent interactions in discourse. Wiltschko (2020) proposes that the interactional content is represented in the interactional structure above CP. She further argues that the interactional structure itself consists of projections such as $\text{Ground}_{\text{Speaker}}$ Phrase, $\text{Ground}_{\text{Addressee}}$ Phrase and Response Phrase. $\text{Ground}_{\text{Speaker}}$ phrase encodes speaker's attitude towards the proposition while $\text{Ground}_{\text{Addressee}}$ phrase encodes what the speaker believes is the addressee's attitude towards the proposition. Response phrase is dedicated to letting the addressee know what the speaker wants the addressee to do with the current sentence. Wiltschko suggests that some Mandarin SFPs associate with this interactional structure, as shown in (4).



In the present paper, I explore the formal properties of Mandarin SFPs. I argue that Mandarin SFPs do not form one uniform syntactic category, and more specifically that their category is not that of the highest sentence-final complementizers (contra Paul and Pan 2017, Pan 2019; among others). Following Wiltschko (2020), I propose that these particles belong to different categories of the interactional structure and should be further divided into three distinct syntactic categories: Ground_{Speaker} particles, Ground_{Addressee} particles and Response particles. I focus my discussion on three representative particles, namely, *ne* 呢, *me* 么 and *ha* 哈. I suggest that *ne* is a typical Ground_{Speaker} particle, *me* is a typical Ground_{Addressee} particle and *ha* is a typical Response particle. My arguments are mainly based on the co-occurrence of Mandarin SFPs. I will show in detail that when co-occurring with other particles, Ground_{Speaker} particles must appear closer to the host sentence than other particles. Ground_{Addressee} particles must be located in between of the Ground_{Speaker} particles and the Response particles. Response particle can only appear in the sentence-final position following other particles. I will demonstrate that an analysis that assumes an interactional structure above CP can account for some poorly understood co-occurrence restrictions among these SFPs.

The organization of the paper is as follows: In section 2, I critically review some representative literature on Mandarin SFPs. In particular, I discuss why Paul and Pan's (2017) analysis, which treats Mandarin SFPs as the highest complementizers, is inadequate in explaining strict word order observed among these particles. Section 3 reviews Wiltschko (2020), which investigates the interactional structures above the proposition structure (CP). Section 4 discusses three representative Mandarin SFPs that are associated with interactional structure, namely *ne*, *me* and *ha*. I give evidence to show that *ne* is a Ground_{Speaker} particle, *me* is a Ground_{Addressee} particle and *ha* is a Response particle (in the sense of Wiltschko, 2020). Section 5 concludes the paper.

2. Previous literature on Mandarin sentence-final particles

In this section, I review several seminal works on Mandarin SFPs. In 2.1, I discuss traditional views (prescriptive grammar) on Mandarin SFPs such as Zhu (1982), Lu (1990), Yin (1999) and Cui (2011), which all investigate the semantic interpretation of SFPs. As I will show in section 4, the interactional model captures the semantic interpretation of SFPs. In 2.2, I focus on Paul and Pan's (2017) analysis which treats Mandarin SFPs (such as *ne*, *me*, *ha*) uniformly as the highest complementizers. I point out the major shortcomings with their analysis.

2.1. Traditional views of Mandarin SFPs

Mandarin SFPs (traditionally called 语气助词 *yǔqì zhùcí* 'mood particles') have long been a hot topic of linguistic research among Chinese scholars. Zhu (1982) provides an overview of Mandarin SFPs and he discusses the discourse function and the distribution of SFPs (p. 207-215). Zhu argues that there are three general classes for Mandarin SFPs. The first class of SFPs consists of *le* and *laizhe*, which express Tense. The second class of SFPs consists of yes/no question marker *ma*, imperative marker *ba*_{imp} and other particles that express the notion of Force. Force determines whether a sentence is declarative, imperative or

interrogative. The third class of SFPs encode the subjective attitude or feeling of the speaker and consists of particles such as *a*, *ou*, *ei*, *ne* (p. 208). As I will introduce in section 2.2, Zhu's (1982) tripartite division of SFPs has greatly influenced other works, such as Paul and Pan (2017).

Lu (1990) devotes one chapter of his book to discuss the function and interpretation of Mandarin SFPs in discourse. Specifically, Lu (1990) focuses his discussion on a selected set of particles including *ne* (p. 264) and *me* (p. 269). Lu (1999) argues that the use of *ne* indicates a sense of strong belief on the part of the speaker. "*ne* is often used when describing facts about the current situation or facts that will take place in the near future...it expresses things like *you look* or *I tell you this...you should believe in what I am saying...ne* indicates that a certain fact is obvious" (p. 264). "*me* carries a sense of asking the addressee *why you don't even know this ... you should know this...*" (p. 269) [with my own translation].¹

Instead of providing an overview of Mandarin SFPs, other scholars conduct case studies and explore the formal properties of only one particular particle. For example, Yin (1999) and Cui (2011) study the meaning and function of Mandarin SFP *ha*. Yin (1999) and Cui (2011) agree that *ha* is used when requesting a confirmation or acknowledgement from the addressee. Speakers use *ha* with the hope that the addressee will agree on what the speaker is talking about. Cui (2011) notes that "*ha* is not simply a particle that merely completes the sentence ...it has a strong inter-subjective effect on discourse" (p. 42) [with my own translation].

I summarize the interpretation of SFPs *ne*, *me* and *ha* in Table (5).

5) Interpretation of three SFPs

Particles	Interpretation
ne	1) indicates a sense of strong belief of the speaker (Lu, 1990) 2) indicates that a certain fact is obvious (Lu, 1990)
me	1) <i>me</i> carries a sense of asking the addressee <i>why you don't even know this...you should know this</i> (Lu, 1990)
ha	1) <i>ha</i> is used when requesting a confirmation or acknowledgement from the addressee. Speakers use <i>ha</i> with the hope that the addressee will agree on what the speaker is talking about (Yin, 1999; Cui, 2011)

I will argue in section 4 that the semantic interpretation of particles *ne*, *me* and *ha* is in line with analyzing them as Ground_{Speaker}, Ground_{Addressee} and Response particles.

2.2. Generative framework: Paul and Pan (2017)

Other than traditional views, Mandarin SFPs have also been examined under the generative framework (Li, 2006; Pan, 2015, 2017, 2019; Paul & Pan, 2017; among others). In this

¹ Since Lu (1990) is written in Chinese, I translate his original words into English. Throughout the paper, I use [with my own translation] to indicate that the translations are mine.

subsection, I review the analysis proposed by Paul and Pan (2017) since it is the most relevant piece of work to the present paper.

The core proposal of Paul and Pan (2017) (see also Pan, 2019) is that Mandarin has a three-layered split CP structure (LowC<Force<Attitude) and SFPs are complementizer heads that realize each layer of the split CP, as shown in Table (6).

6) *The three layers in the split CP*

C1 (LowC)		C2 (Force)	C3 (Attitude)
<i>le</i> currently relevant state	<i>éryǐ</i> 'only'	<i>ba_{imp}</i> (advisative <i>ba</i>)	<i>a</i> softening
<i>laizhe</i> recent past		<i>ba_{Qconfirmation}</i>	<i>ei</i> gentle reminder
		<i>ma</i> yes/no question	<i>ou</i> impatience, surprise
		<i>ma</i> dogmatic assertion
			<i>zhene</i> intensifier
		<i>ne₃</i> exaggeration ² <i>ba</i> probability	

(Paul & Pan, 2017, p.51)

As indicated in Table (6), SFPs realize three distinct layers of CP. Particles such as *le* and *laizhe* express Tense (Zhu, 1982, p. 9) and occur nearest to the host sentence and they are the Low Complementizer heads (LowCs). Paul and Pan (2017) further divide LowCP into two subprojections and argue that SFP *éryǐ* belongs to a higher subprojection of LowCP (hence there are two separate columns under C1). The second class of SFPs consist of particles such as *ba_{imp}*, *ba_{Qconfirmation}*, and *ma_{yes/no question}* which all convey the notion of a certain Force and belong to a higher layer of CP, the Force CP. The highest layer of CP is headed by a group of particles which encodes the speaker's attitude or feelings. Below I cite from Paul and Pan (2017) three examples containing particles from each of the three different layers of CP.

² Here the subscript 3 distinguishes *ne₃* from other two homonyms *ne₁* and *ne₂*. However, since I only focus on the SFPs that express attitude, the fact that in Mandarin there may be a *ne₁* (a Low C) and a *ne₂* (a Force C) is not relevant for the present paper.

- 7) a. Zuótiān xià yǔ **le/laizhe**
 yesterday fall rain LowC/LowC
 “It rained yesterday.”
- b. Nǐ míngnián qù Běijīng **ma?**
 2SG tomorrow go Beijing Force(C)
 “Will you go to Beijing next year?”
- c. Déguó yǔyánxuéjiā kě duō **ne!**
 German linguists really many ATT(C)
 “(Believe me!) There really are a lot of German linguists!”³
 (7a-c; Paul & Pan 2017, p.51 & p.55)

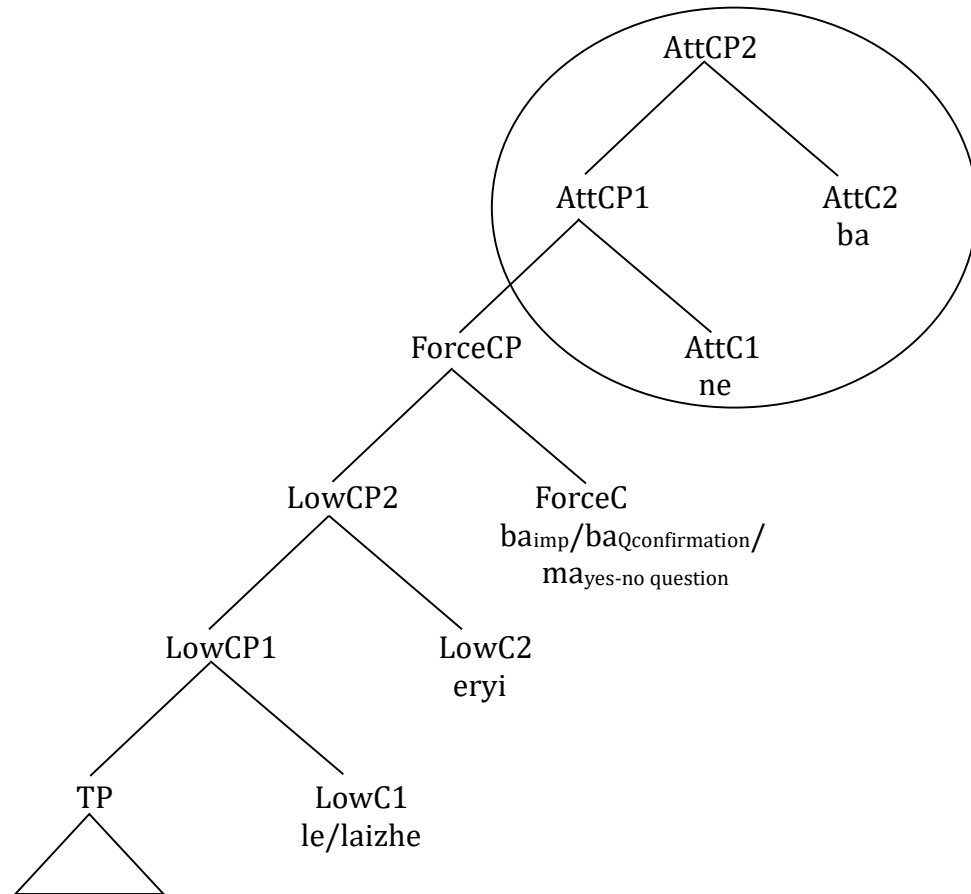
What is crucial for the present paper is that Paul and Pan (2017) further divide Attitude CP into two subprojections and argue that Attitude complementizer phrase headed by *ba* is always higher than the Attitude CP headed by *ne* (hence there are two columns under C3). According to Paul and Pan (2017), sentence (8a) contains two Attitude heads, *ne* and *ba*. The order for these two co-occurring SFPs is fixed: *ne*<*ba* is possible in Mandarin but not *ba*<*ne*, as shown in (8a-b).

- 8) a. [ATT2P [ATT1P [TP Sānshí nián qián hái méi yǒu shǔbiāo] **ne**] **ba**
 thirty year before still NEG have mouse ATT1 ATT2
 “Thirty years ago, very probably there didn’t even exist anything like a computer mouse.”
- b. *[ATT2P [ATT1P [TP Sānshí nián qián hái méi yǒu shǔbiāo] **ba**] **ne**
 thirty year before still NEG have mouse ATT1 ATT2
 (Paul & Pan 2017, p.67)

Paul and Pan argue that the fixed order among co-occurring particles is a reflection of their structural hierarchy. On their analysis, the structure of a Mandarin sentence containing SFPs can be roughly represented as in diagram (9). I circle the highest Attitude CPs in diagram (9) since they are the focus of the present paper.

³ The original translation given in Paul and Pan (2017) is “There really are a lot of German linguists!”. I add (Believe me!) here to indicate the fact that the use of *ne* encodes a strong positive belief of the speaker. The speaker firmly believes the content of the proposition is true.

9)



However, the main shortcoming of this analysis is that since all particles that express attitude are analyzed uniformly as the highest complementizers, their analysis gives no satisfactory syntactic account for the strict word order among these SFPs. For instance, why does particle *ne* always precede other particles such as *ba* but the reverse order is never attested in Mandarin? In other words, as a set of linguistic items that express speaker's feeling (e.g. surprise) and completes the sentence, it might be expected that these particles can appear in a relatively flexible order. However, this is not the case.

What makes their analysis even more problematic is the observation that the proposed 'higher attitude complementizer AttC2 *ba* (probability)' can itself be followed by other particles.⁴ For instance, particle *ha* can occur after *ba* but cannot precede it (10a-b). In Paul

⁴ Note that Paul and Pan (2017) do not specifically discuss the properties of particle *ha*. According to Table (6), there are two plausible positions for *ha*. *ha* can either function as a Force marker or a particle that express attitude. However, since in sentences such as (10a), particle *ha* is in the sentence final position following another particle *ba*, it therefore must locate in the highest attitude complementizer position. Also note that (11a) is an example made up by the author, but other examples containing a pair of co-occurring *ba+ha* is also discussed in the literature. Yin (1999) notes the following example (i). In Yin (1999), instead of a comma, he uses a pause marker in between of *ba* and *ha* to show that the pause needs not to be very long which further supports that the final particle *ha* is part of the sentence, not outside of the clause.

(i) Zhè dào tí méi cuò ba, ha? (Yin, 1999, p.103)

and Pan's analysis, there is no position above the AttC2. Consequently, sentences such as (10a) cannot be accounted for using the CP system proposed by Paul and Pan.

- 10) a. Sānshí nián qián hái méi yǒu shǔbiāo **ne ba, ha?**
 thirty year before still NEG have mouse ATT1 ATT2 particle
 "Thirty years ago, very probably there didn't even exist anything like a computer mouse, eh?"
 b. *Sānshí nián qián hái méi yǒu shǔbiāo **ne ha, ba?**
 thirty year before still NEG have mouse ATT1 ATT2 particle

The strict order *ne<ba* is not an idiosyncratic property only held between two particular particles *ne* and *ba*. Instead, it seems that there is always a strict word order among co-occurring SFPs (such as *ne<ba<ha* in sentence 10a). Analyzing SFPs that express attitude as complementizer heads fails of explaining why, within an uniform category, some SFPs must precede other particles while some SFPs must follow others. In order to account for the correct word order in (10a), we can certainly further divide AttCP into AttCP1, AttCP2 and AttCP3 with particle *ha* in the highest Attitude complementizer head position. However, by doing this, we are merely describing the surface word order of a sentence and not providing any explanation as to why SFPs must appear in the pattern of *ne<ba<ha*, but not in any other orders.

3. Interactional structure above the CP

In this section, I review Wiltschko's (2020) recent work on the interactional structure. Following insights of Ross (1970) and Speas and Tenny (2003), Wiltschko (2020) proposes an updated version of the Speech Act structure. Like Speas and Tenny, Wiltschko argues that syntax should include a Speech Act structure which consists of functional projections. However, Wiltschko differs from Speas and Tenny in that she attempts to explore in great detail how the complex interactions between the speaker and the addressee can be reflected in the Speech Act structure. In the remainder of this section, I first use examples from Wiltschko (2020) to illustrate what counts as a typical interaction between the speaker and the addressee. Then, I review her arguments on why Speech Act structure should represent interactions. In other words, why should the Speech Act structure regulate languages used in interactions? Finally, I present her version of the Speech Act structure (the interactional structure) which consists of interactional layers that helps to regulate interactions.

Wiltschko suggests the following dialogue (11) is a typical interaction between interlocutors. *I* stands for initiating role and *R* stands for reacting role.

- 11) *I*: Gal Gadot was amazing as Wonder Woman, **eh?**
R: **Yeah**, I know, **right?** (Wiltschko, 2020, p.2)

Wiltschko notes that in (11) there are several units of language that contribute to managing the interaction. For example, the sentence-final particle *eh* signals that the initiating interlocutor (the speaker) assumes that the reacting interlocutor (the addressee) shares the

speaker's belief that Gal Gadot was amazing as Wonder Woman and encourages the addressee to respond to the speaker. The particle *Yeah* shows the addressee agrees with what has been introduced by the speaker. Similarly, *right* also indicates agreement and makes the agreement more enthusiastic. Wiltschko argues that all these particles add no content to the proposition, they contribute to the interaction instead. Consider the following dialogue (12).

- 12) I: Gal Gadot was amazing as Wonder Women.
 R: I know. (Wiltschko, 2020, p.3)

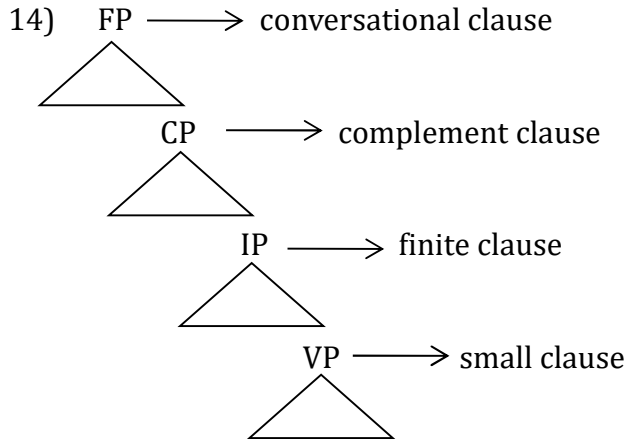
Wiltschko points out that (11*I*) and (12*I*) express the same propositional content. However, by adding particles such as *eh*, the interaction gains a different flavor. Unlike (11), in a dialogue such as (12), there is no way to know whether the speaker cares about the addressee's opinions at all because there are no particles that express this type of content. Wiltschko therefore concludes that particles such as *eh*, *yeah* and *right* manage interactions by changing the quality of the interaction.

Having introduced what is a typical interaction, now, I briefly discuss Wiltschko's reasoning why syntax should represent interactions and why Speech Act structure should include interactional layers that regulate interactions. As argued by Wiltschko and Heim (2016), what constitutes as a clause depends in part on the linguistics context. For example, we can define a clause as something that minimally contains a subject and a predicate and expresses a proposition. If we adopt this definition, we get small clauses such as *John walk his dog*. Small clauses such as *John walk his dog* cannot function as a matrix clause. Instead, matrix clauses containing an inflected verb such as *John walks his dog* are often analyzed as an IP. Now note that in some embedded contexts, both small clauses and inflected clauses without a complementizer become ungrammatical. Omission of complementizer *that* is sometimes possible, but not in the complement of factive verbs like *regret* that take a factive complement. As shown in (13a-c), only an embedded clause containing a complementizer is grammatical.

- 13) a. I regret that John walks his dog.
 b. *I regret John walk his dog.
 c. *I regret John walks his dog.

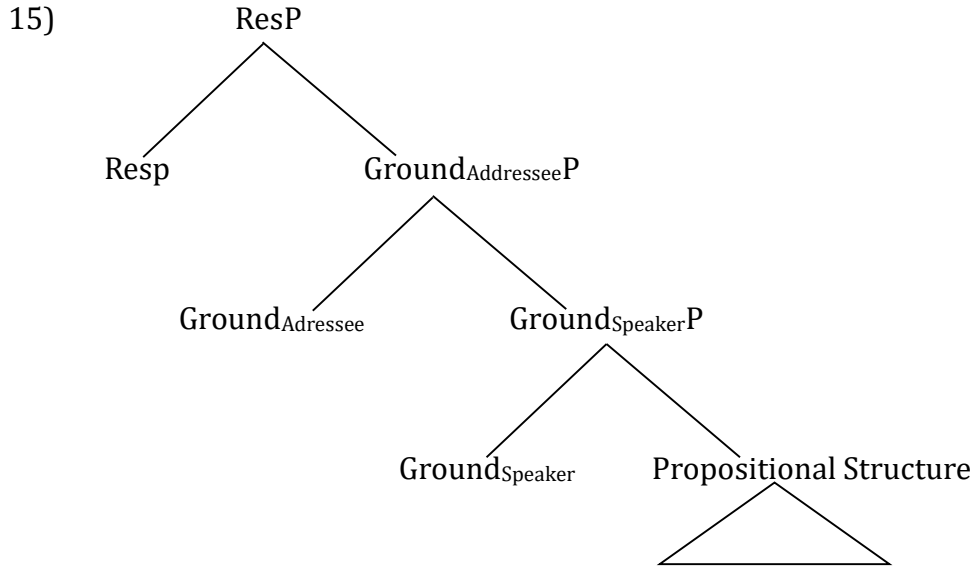
Sentences may grow depending on the immediate linguistics context. Wiltschko and Heim therefore argue that the definition of a clause is not straightforward, and it is not sufficient to define a sentence as consisting of a subject and a predicate (p. 315). For small clauses, a clause can be the size of a VP. For clauses with an inflected verb, a clause is an IP. Certain verbs, such as *regret*, necessarily require a CP as their clausal complement.

Crucially, Wiltschko and Heim further suggest that there are contexts in which a clause grows to include structure that hosts sentence-final particles, such as *eh*. For example, in dialogues such as (11), particles such as *eh* are an obligatory part of the clause since they manage the interaction. Wiltschko and Heim argue that the size of a clause may further grow into (14) which has one or more functional phrases over the CP. These functional phrases capture the complex interactions between the speaker and the addressee in conversations.



(Wiltschko & Heim, 2016, p. 315)

In order to capture the complexity of speech acts in conversations, Wiltschko (2020) proposes an interactional structure that regulates interactions between interlocutors. Wiltschko proposes two core functions of this interactional structure. First, this interactional structure serves to manage the common ground (common ground refers to presumed background information shared by participants in a conversation; Stalnaker, 1978) between the interlocutors. Second, interactional structure aids the interplay between initiating and reacting moves such as turn-taking (Wiltschko, 2020, p. 3). Wiltschko proposes three specific functional projections in this interactional layer: a $\text{Ground}_{\text{Speaker}}$ Phrase, a $\text{Ground}_{\text{Addressee}}$ Phrase and a Response Phrase, as shown in (15).



(simplified diagram from Wiltschko, 2020, p. 108)

The Grounding Phrases manage the common ground between the interlocutors. $\text{Ground}_{\text{Speaker}}$ phrase encodes the speaker's attitude towards the proposition and $\text{Ground}_{\text{Addressee}}$ phrase encodes what the speaker believes is the addressee's attitude toward the proposition. The Response Phrase serves to aid interplay between initiating and reacting moves and regulate interactions such as turn-taking. It encodes what the speaker wants the addressee to do with the utterance. By postulating Ground Phrases and a Response

Phrase, Wiltschko's analysis successfully captures the complexity of speech acts in conversations.

4. The analysis

In this section, I present my analysis of Mandarin sentence-final particles (SFPs). I argue that SFPs associate with categories of the interactional structure. My core proposal is that Mandarin SFPs should not be treated uniformly as complementizers (contra Paul & Pan 2017). Instead, I present evidence to show that Mandarin SFPs should be analyzed as Ground_{Speaker} particles, Ground_{Addressee} particles and Response particles in the sense of Wiltschko (2020). I discuss three representative particles *ne*, *me* and *ha* in detail and I argue that *ne* is a typical Ground_{Speaker} particle while *me* is a Ground_{Addressee} particle. For particle *ha*, I adopt the analysis of Wiltschko (2020) and Yang and Wiltschko (2016) that this SFP is a Response particle. I offer additional arguments based on distribution to support their analysis.

4.1. Particle *ne* as a Ground_{Speaker} particle

I present two types of evidence to demonstrate that *ne* is a Ground_{Speaker} particle. First, its semantic interpretation suggests that particle *ne* functions as a Ground_{Speaker} particle. Lu (1999) summarizes the conditions of use for *ne* as follows: *ne* indicates that the speaker believes a certain fact is obvious. It implies a sense of "look...I tell you this...you have to believe me" (p. 264) [with my own translation], as shown in (16).

- 16) Zhè dōngxi sān bǎi yuán mǎi bù lái **ne**.
 this stuff three hundred CL buy NEG come ATT
 "You cannot buy this for three-hundred Yuan (**believe me**)."
 (Lu, 1999, p. 264)

In (16), the use of *ne* indicates that the speaker strongly believes in this proposition. Since *ne* expresses that the speaker is certain about the proposition, it functions as a Ground_{Speaker} particle which encodes speakers' attitude towards the proposition.

Second, linear order restrictions imply that *ne* is a Ground_{Speaker} particle. When co-occurring with other interactional particles, *ne* always occur closer to its host sentence than any other particles, as shown in (17a-d).

- 17) a. Nǐ shì hái méi zhǎngdà **ne me**⁵
 you be yet not grown.up particle particle
 "Have you not grown up? (**I tell you this...you should know this**)."
 b. *Nǐ shì hái méi zhǎngdà **me ne**
 you be yet not grown.up particle particle
 Intended: "Have you not grown up? (**I tell you this...you should know this**)."

⁵ Example (17c) is slightly modified from Xun, Rao, Xiao and Zang (2016).

- c. Wǒ bà hái zài Xīzàng méi huí lái **ne** **ei**
 my father still at Tibet NEG return particle particle
 “My father has not returned from Tibet yet (**I tell you this...I remind you**).”
- d. *Wǒ bà hái zài Xīzàng méi huí lái **ei** **ne**
 my father still at Tibet NEG return particle particle
 Intended: “My father has not returned from Tibet yet (**I tell you this...I remind you**).”

When co-occurring with other particles such as *me* and *ei*, particle *ne* must appear closer to the host sentence. When *ne* is farther from the host sentence than *me* or *ei*, the sentence is ungrammatical. This linear order restriction is in line with analyzing *ne* as a Ground_{Speaker} particle, which is the lowest position in the interactional layer. As a Ground_{Speaker} particle, it comes as no surprise that *ne* can never follow other interactional particles⁶.

4.2. Particle *ha* as a Response particle

Yang and Wiltschko (2016) discuss the form, distribution and function of the Mandarin confirmational marker *ha* in detail. In what follows, I first summarize their analysis of the interpretative content of *ha*. They show that the interpretative content of *ha* qualifies it as a Response particle. Then I add distributional evidence to support their analysis that *ha* is a Response particle.

Yang and Wiltschko (2016) argue that particle *ha* is often used to request confirmation. In the following example, the declarative sentence (18a) is an assertion. In contrast, the same sentence followed by the particle *ha* (18b) is used for requesting a confirmation.

- 18) a. Nǐmen shì jiǔ diǎnzhōng kāi mén de
 you:PL be nine o'clock open door NOM
 “You opened at nine o'clock.”
- b. Nǐmen shì jiǔ diǎnzhōng kāi mén de **ha**
 you:PL be nine o'clock open door NOM particle
 “You opened at nine o'clock, right?” (18a-b; Yang & Wiltschko, 2016, p.68)

As shown in (18b), particle *ha* indicates that the speaker explicitly requests a response from the addressee. This pragmatic function indicates that *ha* can be analyzed as a Response particle, on a par with the English Response particle *eh*.

Aside from Yang and Wiltschko (2016), other researchers such as Yin (1999) and Cui (2011) also suggest that the primary function of particle *ha* is to indicate a request for confirmation from the addressee. It is therefore reasonable to assume that Mandarin SFP *ha* associates with the Response layer of the interactional structure.

⁶ The interactional properties of particle *ei* are discussed in Paul and Pan (2017). Also note that I gloss *ei* as “I remind you” and this is a rough approximations corresponding to the analyses given in Paul and Pan (2017).

If *ha* is indeed a Response particle, it is expected that *ha* can only occur at the sentence-final position. This prediction is borne out, as shown in (19) a-d⁷.

- 19) a. Zhè tiān kě zhēn lěng **ne**, **ha**?
 this weather so really cold particle particle
 “(Believe me when I say that) Today’s weather is really cold, **eh**?”
- b. *Zhè tiān kě zhēn lěng **ha**, **ne**?
 this weather so really cold particle particle
 Intended: “(Believe me when I say that) Today’s weather is really cold, **eh**?”
- c. Tā měitiān zǎoshàng dōu kāichē shàngbān **de** **ha**?
 she everyday morning all drive work particle particle
 “(I confirm that) She drives to work every morning, **eh**?”
- d. *Tā měitiān zǎoshàng dōu kāichē shàngbān **ha** **de**?
 she everyday morning all drive work particle particle
 Intended: “(I confirm that) She drives to work every morning, **eh**?”

As clearly reflected in (19a-d), when co-occurring with other particles such as *ne* and *de*, *ha* can only be located in the sentence-final position. It can never appear before *ne* or *de*. The position of *ha* therefore supports that *ha* is a Response particle. Yin (1999) also explicitly comments that *ha* must be put after other particles, such as *ne*. It cannot occur before other particles (p.102) [with my own translation].

4.3. Particle *me* as a Ground_{Addressee} particle

Having discussed particles *ne* and *ha*, now I turn to another particle *me*. In some contexts, particle *me* encodes that the speaker assumes that the addressee believes the propositional content to be true⁸. Compare the following examples.

- 20) Scenario: Zhang is sixteen years old. One day, he broke a vase. His mother was shaking her head and said the following sentence.
- a. Nǐ hái méi zhǎngdà **me**? Wǒ juéde shì.
 you yet not grown.up particle I think be
 “Have you not grown up (**you think you have not grown up**)? I think so.”
- b. Nǐ hái méi zhǎngdà **me**? Wǒ bù juéde.
 you yet not grown.up particle I not think.so
 “Have you not grown up (**you think you have not grown up**)? I don’t think so.”
- c. #Nǐ hái méi zhǎngdà **me**? Wǒ bù zhīdào nǐ de xiǎngfǎ
 you yet not grown.up particle I not know you De thought
 “Have you not grown up (**you think you have not grown up**)? I don’t know what you think.”

⁷Example (19c) is slightly modified from Wiltschko (2020, p. 111).

⁸ It is common for Mandarin SFPs to be multi-functional and carry different meanings. It is therefore difficult to pin down the exact semantic contribution of a particle. Here I only focus on the contexts where *me* functions as a Ground_{Addressee} particle.

Consider the examples (20a-c). In (20a), the use of particle *me* indicates that the mother assumes her child Zhang believes that he has not grown up yet. *Me* is not speaker-oriented and it encodes nothing about the speaker's own attitude towards the proposition. This is evidenced by the fact that *me* is compatible with either a following sentence which expresses that the speaker believes the proposition is true (20a) or expresses that the speaker thinks that the proposition is false (20b). In sharp contrast, in (20c), the following utterance *wo bu zhidao ni de xiangfa* "I don't know what you think" makes it clear that the speaker has made no assumption about the addressee's belief towards the proposition. This contradicts the use of particle *me*. When using *me*, the speaker is expressing her assumption that the addressee believes he has not grown up yet. Therefore, the well-formedness of (20a-b) and the infelicity of (20c) imply that *me* must be an addressee-oriented particle that encodes the speaker's assumption that the addressee believes the proposition is true.

If *me* is indeed a Ground_{Addressee} particle, it is predicted that *me* appears between a Ground_{Speaker} particle and a Response particle. As shown in the following examples (21a-d), this prediction is borne out.

- 21) a. Nǐ hái méi zhǎngdà **ne** **me**, **ha**?
 you yet not grown.up particle particle particle
 "(Believe me when I say that) You have not grown up (you think you have not grown up), eh?"
- b. *Nǐ hái méi zhǎngdà **me** **ne**, **ha**?
 you yet not grown.up particle particle particle
 Intended: "(Believe me when I say that) You have not grown up (you think you have not grown up), eh?"
- c. *Nǐ hái méi zhǎngdà **ne** **ha** **me**?
 you yet not grown.up particle particle particle
 Intended: "(Believe me when I say that) You have not grown up (you think you have not grown up), eh?"
- d. *Nǐ hái méi zhǎngdà **me** **ha** **ne**?
 you yet not grown.up particle particle particle
 Intended: "(Believe me when I say that) You have not grown up (you think you have not grown up), eh?"

Examples (21a-d) show that particle *me* is able to locate in between of *ne* and *ha*. The fixed order between particles *ne*, *me* and *ha* ($ne < me < ha$) favors analyzing *ne* as a Ground_{Speaker} particle, *me* as a Ground_{Addressee} particle and *ha* as a Response particle. Note that the only acceptable order of these three co-occurring particles is $ne < me < ha$, any other orders will be judged unacceptable.

The primary advantage of associating Mandarin SFPs with the interactional structure is that it allows us to account for the strict order among co-occurring particles. Recall the following examples (22a-b) from Paul and Pan (2017).

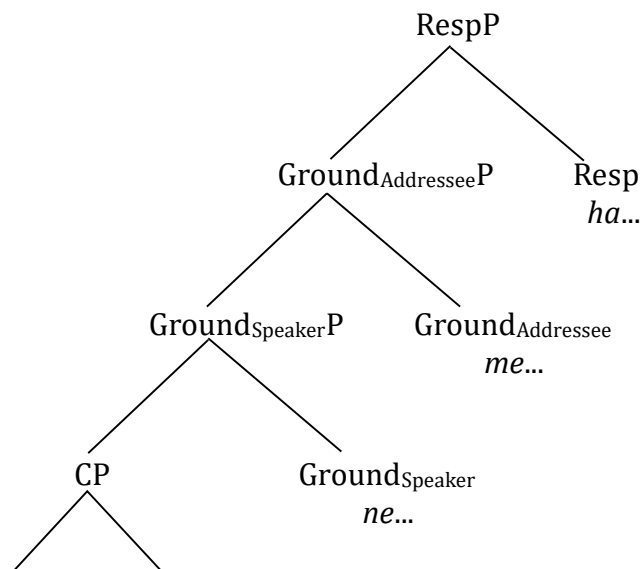
- 22) a. [ATT2P [ATT1P [TP Sānshí nián qián hái méi yǒu shǔbiāo] **ne**] **ba**
 thirty year before still NEG have mouse ATT1 ATT2
 “Thirty years ago, very probably there didn’t even exist anything like a computer mouse.”
- b. *[ATT2P [ATT1P [TP Sānshí nián qián hái méi yǒu shǔbiāo] **ba**] **ne**
 thirty year before still NEG have mouse ATT1 ATT2
 Intended: “Thirty years ago, very probably there didn’t even exist anything like a computer mouse.” (Paul & Pan 2017, p. 67)

If we adopt the analysis I present in this paper and treat particle *ne* as a Ground_{Speaker} particle, it should come as no surprise that Ground_{Speaker} particle *ne* must always be located closer to the host sentence than any other interactional particles.

5. Conclusion

In this paper, I investigated the syntactic properties of Mandarin SFPs. I pointed out that Paul and Pan’s analysis cannot account for the strict linear order among co-occurring SFPs. Following Wiltschko (2020), I argued that Mandarin interactional SFPs can be analyzed as Ground_{Speaker}, Ground_{Addressee} and Response particles. Drawing evidence from their interpretative content and their distribution, I argued that *ne* is a typical Ground_{Speaker} particle, *me* is a typical Ground_{Addressee} particle and *ha* is a typical Response particle, as shown in (23). By associating particles such as *ne*, *me* and *ha* with the interactional structure, poorly understood linear order restrictions can be readily accounted for.

23) Mandarin interactional particles and the interactional layer



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Appendix A: particles and their corresponding Mandarin character

Particle	Mandarin Character	Resources	Semantic Contribution	What category is it?
<i>ne</i>	呢	Lu(1999)	speaker believes the proposition is true	Ground _{Speaker}
<i>me</i>	么	Lu(1999)	speaker assumes that the addressee believes the proposition is true	Ground _{Addressee}
<i>ha</i>	哈	Cui (2011); Yin (1999); Yang & Wiltschko (2016)	speaker requests confirmation from the addressee	Response

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