I would like to express my deepest thanks to my advisor Professor Peter Klecha for his valuable guidance, support, and patience as I completed this thesis. I also want to thank my secondary reader Professor Shizhe Huang and my peer readers, Amanda Izes and Nozomi Park, for their insightful feedback at various stages of the writing process. Further, I am grateful for my Mandarin consultants Shirley Liu, Xihao Luo, Hao-Tong Yan, and others who generously spent their time answering my questions. Without their help, I would not have been able to carry out this research. Finally, I want to thank my friends and family for their unending support and prayers not just while I wrote my thesis, but all throughout my time at Swarthmore. I could not have done it without you all.
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List of Abbreviations

1 - first person
2 - second person
3 - third person
ASP - aspect
EXC - exclamative
FALLING - falling intonation
MA - speech act intensifier
MA₁ - polar question marker
MA₂ - evidentiality marker
NEG - negation, negative
PL - plural
RISING - rising intonation
SG - singular
1 Introduction

The Mandarin sentence-final particles MA₁ (吗) and MA₂ (嘛) have generally been acknowledged as being two different particles with distinct functions by speakers of Mandarin and by linguists. MA₁ is considered to be a polar question particle. Adding it to a declarative sentence turns it into a polar question, as shown in (1).¹

(1) a. 今天 很 冷.
   *Jìntiān hěn lěng.*
   today very cold
   'It is very cold today.'

b. 今天 很 冷 吗?
   *Jìntiān hěn lěng mā?*
   today very cold MA₁
   'Is it very cold today?'

On the other hand, MA₂ has generally been acknowledged as being a marker of obviousness or self-evidentiality. A speaker would use (2a) if they thought something was obvious, but would use (2b) otherwise.²

(2) a. 是 这 样 的 嘛!
   *Shì zhè yáng de mā!*
   be this way DE MA₂
   'It really is this way' (Chappell 1991)

b. 是 这 样 的.
   *Shì zhè yáng de*
   be this way DE
   'It is this way' (Chappell 1991)

Both of these particles are both pronounced [ma], have neutral tone, and are unstressed. Relatively little has been published on the core meaning or function of MA₂, and very few linguists discuss both particles together since they appear to be “functionally distinct” (Chappell 1991:1).

Some such as Chao (1968) have noted that MA₁ has a rising intonation contour and MA₂ has a falling intonation contour. However, his observation has not been treated as a critical differentiating factor between MA₁ and MA₂. This becomes relevant because these two particles can occur in declarative and interrogative sentences with the exact same structure. While (1b) is written as a question, it may become a declarative if said with a falling intonation. Similarly, (2), which is

¹Any data that is not cited was produced on my own and checked with native speakers of Mandarin.
²In all of the data obtained from other sources, I changed the morpho-syntactic gloss of ma to be consistent with my glossing system of MA₁ and MA₂.
written as an assertion, may become a question if it is said with a rising intonation. These are illustrated in (3) and (4), respectively.

\begin{itemize}
  \item[(3)] \textit{今天很冷吗} (\textit{1})?
  \textit{Jiutian hên lêng ma} (\textit{1}).
  \textit{today very cold} \textit{MA\textsubscript{2} FALLING}
  \textquote{It is very cold today.}'
  \textbf{\textit{de}}

  \item[(4)] \textit{是这样的吗} (\textit{1})?
  \textit{Shì zhè yàng de ma} (\textit{1}).
  \textit{be this way} \textit{DE MA\textsubscript{1} RISING}
  \textquote{Is it this way?}'
\end{itemize}

There are different Chinese characters for the two \textit{ma} particles, so in writing, both the \textit{ma} characters and the punctuation marks make clear which particle is being used. However, in speech, only the speaker's intonation is what allows hearers to determine which one is being used. Furthermore, \textit{MA\textsubscript{1}} is not necessary to form polar questions in Mandarin since intonation alone can form them. This is illustrated in (5).

\begin{itemize}
  \item[(5)] \textit{今天很冷} (\textit{1})?
  \textit{Jiutian hên lêng} (\textit{1}).
  \textit{today very cold} \textit{RISING}
  \textquote{It is very cold today?}'
\end{itemize}

Sentences like (5) that contain no \textit{ma} particle but have rising intonation are known as declarative questions. I will elaborate on intonation in §2.2, but I bring it up now to illustrate that \textit{MA\textsubscript{1}} may not be a polar question particle, and that the distinction between \textit{MA\textsubscript{1}} and \textit{MA\textsubscript{2}} are not as clear as the literature has made them out to be.

While it has long been held that there are two distinct \textit{ma} particles, in this paper, I argue that \textit{MA\textsubscript{1}} and \textit{MA\textsubscript{2}} should be unified and analyzed as being a single particle, which I will refer to as \textit{ma} henceforth. I follow Li (2006) in positing that \textit{ma} is neither a question particle nor an evidentiality marker. I argue that it is a speech act intensifier. Thus, I will demonstrate how speakers use \textit{ma} to strengthen the illocutionary force of their utterances. In order to demonstrate precisely how illocutionary force is strengthened, I will propose a formal framework that models how \textit{ma} interacts with speech act operators in the syntax. In this framework, I will lay out how \textit{ma} results in the intensification of assertions, imperatives, and questions. Li (2006) also analyses \textit{ma} as being a single particle, and in particular, she argues that it is "high degree marker." Her argument stems from a "meaning minimalist" perspective, which seeks to identify the semantic core of any lexical item that has a seemingly broad range of functions (Li 2006:2).

Li's argument
is where I begin, and this paper will take a compositional approach of semantics to model the meaning of ma.

In §2, I summarize Li's argument for unifying the two ma particles, and I provide additional data concerning prosody in support of pursuing this analysis. In §3, I review the semantic frameworks regarding common ground, discourse commitments, and speech act operators that I use to model my analysis of ma. In §4, I analyze ma as a speech act intensifier for assertions, imperatives, and questions, and I describe the contexts in which the use of ma is acceptable. In §5, I point out other uses of ma that I have observed but did not account for, as well as why I chose not to include them in this analysis. §6 contains a summary of other analyses of ma, and in §7, I conclude my analysis and provide directions for further research.

2 Starting Point for a Single Particle Analysis

2.1 Li (2006): ma as a High Degree Marker

In contrast to mainstream interpretations that there are two different ma particles, Li (2006) argues that there is only one. After examining the similarity in distribution and function of ma and another Mandarin sentence-final particle, ba, Li analyzes ma as a degree marker that expresses the speaker's high degree of commitment towards the proposition in the sentence. Thus, using it in a declarative sentence expresses a high degree of believing the utterance to be true. Using it in an imperative means there is a high degree of wanting the command to be carried out, and using it in interrogative sentence expresses a high degree of wanting a response from the hearer, which according to Li, makes it a yes-no question for pragmatic reasons. The connection to ba is that it has the same function, but with a low degree of commitment. The data in (6)-(8) illustrate how ma and ba appear to have similar distributions, supporting the analysis that as long as there is one ba sentence-final particle, there is likely only one ma particle.

(6) ma & ba in declarative sentences:
   a. Hongjian zai bungongshi ma.
      Hongjian at office MA
      'Obviously/certainly Hongjian is in his office.'
   b. Hongjian zai bungongshi ba.
      Hongjian at office BA
      '(Probably) Hongjian is in his office.'

(7) ma & ba in imperative sentences:
2.2 Prosody: Further Reasons to Unify ma

As mentioned in §1, prosody in questions and assertions with ma suggest that ma should be analyzed as something other than a polar question particle. While little has been said about the
relationship between prosody and ma, I argue that prosody, and specifically intonation, provides crucial evidence in support of unifying MA₁ and MA₂. In particular, I will show how the intonation patterns in both polar and non-polar questions such as Wh-word questions and alternative questions complicate the view that ma is a polar question particle.

2.2.1 Intonation in Polar Questions

In any given isolated sentence containing ma, the intonation of the sentence is the primary factor that allows hearers to know if the speaker intended a question (MA₁) or a statement (MA₂). This is illustrated in (10) and (11). Whenever it is unclear whether the morpheme in question is MA₁ or MA₂, I will gloss it as MA with no subscript. The Chinese character will be written as 吗/嗎 to indicate this as well.

(10) 今天 很 冷 吗/嗎 (?)
        Jīntiān hěn lěng ma (?)
    Today really cold MA RISING
    ‘Is it really cold today?’

(11) 今天 很 冷 吗/嗎 (?)
        Jīntiān hěn lěng ma (↑)
    Today really cold MA FALLING
    ‘It is really cold today.’

One may argue that two separate ma particles still exist, with MA₁ having rising intonation and MA₂ having falling intonation, as Chao (1968) suggested. However, what complicates that view is the fact that most polar questions in Mandarin have some kind of rising intonation, as observed by Grubric (2008) and Lee (2005) among others. Thus, the supposed prosody of MA₁ could be confounded with the characteristic intonation of polar questions.

Another issue is that it is possible to form polar questions using only intonation and no particle, as Li and Thompson (1981) and Grubic (2008) have observed. This is shown in (12) and (13).

(12) 她 买 点 香蕉 吗?
    Tā mǎi diǎn xiāngjiāo ma? (marked Y/N question)
    She buy a-bit banana MA₁
    ‘Is she buying some bananas?’

(13) 她 买 点 香蕉 (?)?
    Tā mǎi diǎn xiāngjiāo (?) (unmarked Y/N question)
    She buy a-bit banana RISING
    ‘Is she buying some bananas?’

Questions like (13) are known as ‘declarative questions’ because they have the syntax of a declarative sentence, but are in fact questions. These questions are often used by the speaker to
confirm information that they have just received, often because they feel doubt or surprise. According to Li and Thompson, such questions without *ma* (unmarked questions) have an intonation that is easily recognized 'in context' and is distinct from a declarative intonation (Li and Thompson 1981:520).

Additionally, in an experiment on Mandarin question prosody run by Grubic (2008), participants were asked to listen to audio files of certain sentences and determine if they were marked questions, unmarked questions, or assertions. In order to keep the sentences syntactically equivalent, the audio clips of questions containing *ma* were truncated so that *ma* was excluded. The results were that 90% of all questions, regardless of whether they were originally marked or unmarked, were still correctly identified by participants as being questions. 96% of declaratives were correctly identified as being assertions (Grubic 2008:73). This demonstrates that regardless of the presence of MA₁, hearers use intonation to determine if an utterance is a question or a statement.³ The optionality of MA₁ in polar questions and the prominence of intonation as a question feature provide me with more reasons to analyze *ma* as something other than a polar question particle.

### 2.2.2 An Empirical Issue for Intonation in Polar Questions

There is an empirical issue that emerges when considering rising intonation to be the feature that marks polar questions. In some cases, rising intonation seems unable to form a question unless *ma* occurs with it. These are questions in which the predicate is a bare intransitive verb or an adjective, as shown in (14) and (15), respectively.

(14) *他 来 (↑)?

Tā lái (↑)?

3s come RISING

‘He comes?’

(15) *她 高兴 (↑)?

Tā gāoxìng (↑)?

3s happy RISING

‘She is happy?’

It may be plausible to assume the absense of *ma* is what makes this ill-formed as a polar question. Curiously, once the length of the sentence is increased by even one syllable through the addition of an auxiliary verb or a different sentence final particle, the sentence becomes acceptable. In (16), the auxiliary verb *huì* ‘will’ is inserted, and in (17), the exclamative particle *la*, which is a contraction of the aspect particle *le*⁴ and the exclamation *a*, is inserted.

³In Grubic’s study, the point was to see if there were prosodic differences between unmarked and marked questions, which there were.
⁴The particle *le* can indicate a change in situation, hence the addition of ‘now’ in the gloss for (17).
In both (16) and (17), *ma* is still not present, yet the rising intonation now results in a polar question. I therefore argue that this is still an issue of prosody. The bare intransitive or adjective may not be the proper host for the rising intonation due to the length of the sentence being too short. In (14) and (15), there is no place for the question-marking rising intonation to be realized. But with an extra syllable being added in (16) and (17), the intonation can be fully realized and the question reading emerges.

2.2.3 Intonation in Wh- Word and Alternative Questions

The interaction of MA1 and prosody is also found in questions with *Wh-* words, which can serve as interrogative words (*what, who, where*) or as indefinite pronouns (*anything/something, anyone/someone, anywhere/somewhere*). Pan and Waltraud (2016) argue that when a question contains a *Wh-* word, rising intonation is what makes the *Wh-* word have a question reading, as shown in (18).

(18) 你 想 吃 点 什么 (*?*?)  
*Nǐ xiāng chī diǎn shénme (*?*)*  
2s want eat a-bit what  RISING  
‘What do you want to eat?’

(Pan and Waltraud 2016)

Without such prosodic features, the sentence becomes an assertion containing an indefinite pronoun as long as the indefinite reading is licensed. These licensing features may include negative polarity or the presence of a non-factive verb (Li 1992). (19), which contains the non-factive verb *xiāng* ‘want,’ is an example of this kind of sentence.

(19) 你 想 吃 点 什么 (*?*?)  
*Nǐ xiāng chī diǎn shénme (*?*)*  
2s want eat a-bit *something* FALLING  
‘You want to eat *something.*’

Stress on certain words may also play a part. Because I do not have the time to conduct a phonetic analysis, and because the particular prosodic feature is not crucial in my analysis, I will discuss it simply in terms of intonation. The point is that some prosodic feature(s) give it the question reading, not the syntax.
Pan and Waltraud claim that once *ma* is added to the sentence in either (18) or (19), the *Wh-* word gets an indefinite reading, and the sentence can only have a yes-no question reading, as shown in (20).

(20) 你想 吃 点 什么 吗?
*Nǐ xiǎng chī diǎn shénme ma*
2s want eat a-bit something MA,
‘Do you want to eat something?’

(Pan and Waltraud 2016)

But crucially, the intonation of questions containing *ma* were not discussed by Pan and Waltraud. (20) would more accurately be glossed as (21), where rising intonation is an explicit feature.

(21) 你想 吃 点 什么 吗/嘛 (?)
*Nǐ xiǎng chī diǎn shénme ma (?)*
2s want eat a-bit something MA RISING
‘Do you want to eat something?’

The reason (21) is a more accurate gloss is that if the intonation was falling, the sentence would become an assertion. Even with *ma* and a *Wh-* word, falling intonation allows the sentence to have a declarative reading, as illustrated in (22).

(22) 你想 吃 点 什么 吗/嘛 (．)
*Nǐ xiǎng chī diǎn shénme ma (．)*
2s want eat a-bit *something MA FALLING*
‘You want to eat something.’

Pan and Waltraud did not discuss sentences like (22), but this data shows that *ma* on its own does not form a question. I must note that there are nuanced differences between the two declarative sentences in (19) and (22), such as the fact that the latter is more acceptable as a response to a question. Again, this will be explained in my analysis. For now, I highlight that *intonation*, rather than the presence of *ma*, is what makes the sentence a question. The observations for these sentences have been summarized in Table 1.

<table>
<thead>
<tr>
<th>Table 1: <em>Wh-</em> words, <em>ma</em>, and intonation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rising/Question Intonation</strong></td>
</tr>
<tr>
<td>without <em>ma</em></td>
</tr>
<tr>
<td>with <em>ma</em></td>
</tr>
</tbody>
</table>
My consultant also noted that in certain contexts, a sentence like (18), which contains a Wh-word, rising intonation, and no ma, can also have a yes-no question reading. This further supports my proposal that ma is something other than a polar question particle.

Suppose Speaker A knew that Speaker B was someone who rarely expressed being hungry. If one day, A heard B say ‘I want to eat something,’ A could say (18) as a yes-no question. This is demonstrated in (23).

(23) **Rising Intonation + Wh-word as a yes-no question**

a. B: 我 饿 了. 我 想 吃 点 饺子.
   Wǒ è le. Wǒ xiǎng chī diǎn jiǎozǐ
   1SG hungry ASP. 1SG want eat a-bit dumplings
   ‘I’m hungry. I want to eat some dumplings.’

b. A: 你想 吃 点 什麼 (?)
   Nǐ xiǎng chī diǎn shénme (?)
   2s want eat a-bit what RISING
   ‘You want to eat something?’

This is an instance of a declarative question in which the speaker is confirming information, and no ma is necessary for it to have a polar reading. Regardless of the presence of a Wh-word or ma, if the rising question intonation is not present, the sentence cannot have a question reading. Many have treated MA₁ and MA₂ differently based on the fact that one forms a question and the other does not, but the data concerning prosody I have presented in this section complicates that analysis and gives me reason to follow Li’s analysis that there is only one ma particle.

### 3 Theoretical Frameworks

In order to lay the groundwork for my model of ma, I will first discuss several key works in modelling speech acts in discourse.

#### 3.1 Common Ground, Commitment, and Scoreboard Semantics

Stalnaker (1978) introduces the Common Ground (cg) as set of propositions that each discourse participant has already accepted. He argued that any sentence S uttered by a speaker updates the cg, as shown in (24).

(24) a. \([cg, S] = [cg] \cap [S]\)
One of the limitations of Stalnaker's analysis is that it does not model how assertions can be accepted or rejected. Additionally, as a model for assertions only, it leaves work to be done on other kinds of speech acts such as questions and imperatives.

The concept of discourse commitment, which was first introduced in Hamblin (1971) and revived by Gunlogson (2008), opens up ways to model these other speech acts. Hamblin proposes the commitment-slate which represents the set of commitments of a speaker at a specific moment in the discourse. These commitments can be made when the speaker utters an assertion or expresses agreement with the other speaker's utterance. Thus, the commitment-slate is distinct from Stalnaker's \( \sigma_d \), as it does not necessitate that participants in the discourse have all committed to the items in any given speaker's commitment-slate.

Parkas and Bruce (2010) then introduce the idea of the Table in discourse. They model the Table as being a stack containing items that are 'at issue' in the conversation. That is, if anything is on the Table, the immediate goal of the discourse participants is to deal with it and empty the Table. Their formalization illustrates how both polar questions and assertions propose to update the \( \sigma_d \) rather than automatically updating it. Following Hamblin and Gunlogson, they incorporate the idea of discourse commitments, and they model the context structure of any given conversation using the diagram in Figure 1:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>( DC_A )</td>
<td>( DC_B )</td>
</tr>
<tr>
<td>( \sigma_d )</td>
<td>( ps )</td>
</tr>
<tr>
<td>Common Ground</td>
<td>Projected Set</td>
</tr>
<tr>
<td>( S )</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1: Sample context structure as explained in Parkas and Bruce (2010:8)

In this diagram, \( DC_A \) and \( DC_B \) are the discourse commitments of Speaker A and B. \( \sigma_d \) includes propositions that all participants have jointly agreed upon, \( ps \) includes all the possible future common grounds, and the contents \( S \) of the Table are the items still under discussion. \( ps \) and the Table are closely related since the contents of \( ps \) are consistent with resolving whatever \( S \) is on the Table.

According to Parkas and Bruce, when Speaker A utters an assertion or polar question, \( DC_A \) is updated, as well as the Table and \( ps \). By uttering an assertion, the speaker is now committed to it (\( p \) is added to \( DC_A \)) and has put that proposition on the Table. By asking a question, the speaker is not committed to anything, but has put \( \{p, \neg p\} \) on the Table. The crucial difference between
polar questions and assertions lies in the items in ps. For an assertion, ps becomes a singleton set containing the union of cg and p:

\[(25)\quad ps = \{cg \cup \{p\}\}\]

On the other hand, for a polar question, ps contains two items: the union of cg and p, and the union of cg and \(\neg p\).

\[(26)\quad ps = \{cg \cup \{p\}, cg \cup \{\neg p\}\}\]

This approach is referred to by some as “Scoreboard Semantics” because of the way the items on the “scoreboard” are constantly updated as the discourse progresses.

### 3.2 A Compositional Approach

Klecha (2018) takes the idea of Scoreboard Semantics and develops a model which he calls “Generalized Scoreboard Semantics.” In his model, the scoreboard contains everything that a given community accepts to be true. Following Austin (1961), he also defines the meaning of sentences not in terms of truth-conditions, but in terms of illocutionary effect. There is a single rule that updates the scoreboard, and there are speech act operators functioning in the syntax. The following is the update rule, which removes the need to update several component of the scoreboard as previous analyses have required:

\[(27)\quad [SB\ S] = [SB] \cap [S]\]

#### 3.2.1 Imperative Operator

Klecha treats imperatives as preferences on the part of the speaker that get added to the scoreboard. In his framework, there is an imperative \([\text{IMP}]\) operator defined as:

\[(28)\quad [\text{IMP}] = \lambda p \{w : D_{sp}^{w} \subseteq p\}\]

where \(D_{sp}^{w}\) is the set of all the worlds consistent with the speaker’s preferences. The meaning of \([\text{IMP}]\) can be paraphrased as ‘I think it should be the case that.’ A sentence like ‘Go!’ would be modeled as follows:

\[(29)\quad \text{IMP} \quad (you) \quad \text{go}\]
Because Klecha treats imperatives as expressions of preference, adding the imperative in (29) to the scoreboard means that 'the speaker thinks it should be the case that the hearer go' is now true in the speech community. Thus, everyone including the speaker must behave as though the speaker thinks it should be the case that the hearer go. In Klecha's model, this update is non-negotiable, but it has nothing to do with the hearer's actual behavior. Only when the hearer accepts this preference does their behavior become restricted, since the scoreboard would then entail that the hearer also prefers that they go.

I will be adopting this analysis as I explain the use of *ma* in Mandarin imperatives.

### 3.2.2 Assertion Operator

Klecha takes the position that assertions are effectively imperatives that tell the hearer to make the proposition part of the common ground. The assertion operator $[\text{MB}]$ can be paraphrased as 'we believe,' and is defined as follows:

\[(30) [\text{MB}] = \lambda p \{ u : B^u_{\infty}(s, h) \subseteq p \}\]

where $B^u_{\infty}(s, h)$ is the set of worlds consistent with the speaker and hearer's mutual beliefs, and the proposition $p$ is added to their mutual beliefs. Klecha's model has the $[\text{IMP}]$ operator dominating the $[\text{MB}]$ operator. Accordingly, a sentence like 'Sally left' would be paraphrased as 'I think it should be the case that we believe Sally left,' as demonstrated below:

\[(31) \quad \text{IMP} \quad \text{MB} \quad \text{Sally left}\]

Its meaning is modeled in (32), with $p$ being 'Sally left':

\[(32) [\text{IMP} \quad \text{MB} \quad p] = \lambda p \{ w : D^w_p \subseteq \{ u : B^u_{\infty}(s, h) \subseteq p \} \}\]

When an assertion is uttered and added to the scoreboard, a speaker's belief that $p$, as well as that speaker's preference for the hearer to believe that $p$, become part of the common ground.

### 3.2.3 Polar Question Operator

Since my analysis encompasses Mandarin questions containing *ma*, I add a Polar Question operator $[\text{PQ}]$:

\[(33) [\text{PQ}] = \lambda p \{ y : D^y_p \subseteq p \land D^y_{\neg p} \subseteq \neg p \}\]
where the hearer commits to either $p$ or $\neg p$. The paraphrase for this operator would be ‘(you) commit to $p$ or $\neg p,$’ and when joined with the $[\text{IMP}]$ operator, it becomes a question in which the speaker prefers that the hearer commit to either $p$ or $\neg p$. While my formalization does not explicitly model an event in which the hearer replies, this is not paramount to my analysis of $ma$ since I argue that $ma$ interacts with $[\text{IMP}]$. Thus, I will not include it here.

A question such ‘Sally left?’ would have the meaning ‘I think it should be the case that you commit to Sally left or Sally did not leave,’ as demonstrated below:

\[
\text{IMP} \quad \text{PQ} \quad \text{Sally left}
\]

\[
\text{IMP} \quad \text{PQ} \quad \text{p}
\]

Going forward, for the sake of brevity, I will paraphrase it the question portion of this as ‘you tell me if.’ I will be working with this model of speech acts to demonstrate how $ma$ interacts with them.

4 Analysis: $ma$ as a Speech Act Intensifier

In this section, I argue that $ma$ is an intensifier of speech acts in Mandarin. Rather than being a marker of evidentiality or of polar questions, $ma$ strengthens the speaker’s act of asserting, commanding, or questioning. It is only acceptable in situations where the speaker has a reason to emphasize the desired effect of their utterance, and I will discuss what these contexts look like for each sentence type. My analysis is along the lines of Li’s (2006) in which $ma$ is a ‘high degree marker.’ However, by positing that there are speech act operators in the syntax that $ma$ interacts with, the meanings of various sentences in my analysis will differ from the meanings that Li’s analysis predicts.

Compositionally, the position of $ma$ would be as follows, with $ma$ strengthening the force of $[\text{IMP}],$ making it ‘I strongly think it should be the case that.’

\[
\text{MA} \quad \text{IMP} \quad \text{MB/PQ} \quad \text{p}
\]
One might also model *ma* as replacing [*IMP*] entirely, and having the meaning 'I strongly think it should be the case that.' But since I chose to analyze *ma* as being something that is added to a sentence rather than replacing a silent operator in the sentence, I will keep it in the position above [*IMP*].

4.1 Assertions

In the case of assertions, *ma* intensifies the speaker's act of proposing to make the proposition part of the common ground. These contexts are often realized as one of the following:

1. the speaker expects the proposition to already be in the common ground
2. the speaker is giving a reason or an answer to a 'why' or 'how' question
3. the speaker is trying to teach or convince the hearer of something (often, but not necessarily, after the hearer has expressed doubt)

The following examples illustrate each of these contexts. First, (36) illustrates how *ma* occurs in Context 1 in which the speaker expects the proposition to already be in the common ground. If an object that had the prototypical shape of a water bottle was in front of both the speaker and the hearer, the speaker could utter (36).

(36) 这 是 水瓶 吗/嘛.
*Zhè shì shuǐpíng ma*
this is water-bottle *MA*

‘This is a water bottle.’

(I *really* think it should be the case that we believe) this is a water bottle.

Since the item is undoubtedly a water bottle, the speaker expects the hearer to have seen the object and to know that it was a water bottle, thus leading them to believe that the statement is already part of the common ground. Since something likely caused them to utter the sentence explicitly, they can use *ma* to more strongly propose that the proposition be part of the common ground if it is not already. If for whatever reason, it was not clear that the item was a water bottle, the speaker could not use *ma* and would say (37) instead.

(37) 这 是 水瓶.
*Zhè shì shuǐpíng*
this is water-bottle

‘This is a water bottle.’

(I think it should be the case that we believe) this is a water bottle.
(37) can be uttered whether the object in front of the speaker and hearer looks like a water bottle or not. It would simply be a proposition that the speaker is committing to and is trying to add to the common ground.

An example of Context 2, where the speaker is responding to a ‘why’ or ‘how’ question, is illustrated in (38). In this example, Student A is trying to go into a professor’s office, and Student B stops them because another person is already in the office.

(38) a. A: 为什 么 我 不能 进 去?
   Wèishénme wǒ bù néng jìn qù?
   ‘Why can’t I go in?’

   b. B: 张 三 在 办公室 吗/嘛!
   Zhāngsān zài bāngōngshì ma!
   ‘Zhangsan is in the office!’

   (I really think it should be the case that we believe) Zhangsan is in the office.

Here, Student B strongly wants ‘Zhangsan is in the office’ to become part of the common ground since it is an explanation for why Student A should not go into the office and potentially disturb the professor’s ongoing meeting. (38b) would not be acceptable if Student B was not responding to a ‘why’ question and was simply providing a standalone fact. To assert this sentence as a standalone fact, the speaker would have to omit ma from the sentence and say (39) instead.

(39) B: 张 三 在 办公室.
   Zhāngsān zài bāngōngshì.
   ‘Zhangsan is in the office.’

   (I think it should be the case that we believe) Zhangsan is in the office.

A use of ma in Context 3 would be if a speaker asserted some proposition, and the hearer laughed in response to express disbelief. The speaker could then say (40) in an attempt to convince the hearer that they are telling the truth.

(40) 是 这样 的 吗/嘛!
   Shì zhè yàng de ma!
   ‘It is this way!’

   (I really think it should be the case that we believe) it is this way.

   (Chappell 1991)

In this situation, ma strengthens the speaker’s act of trying to make this fact mutually agreed upon. The hearer’s refusal of the initial proposition allows the speaker to intensify their new assertion using ma. Without ma, the utterance would not have the same strength.
Additionally, (40) could be said by a professor who is giving a lecture with new content. Although no student may have expressed doubt or disagreement, the professor is in the position of teaching them the material, so they might utter the sentence with *ma* to emphasize this act.

While *ma* seems to appear in a range of assertions, analyzing it as a speech act intensifier allows us to see the connection between them. The underlying connection is that in all contexts, a speaker uses *ma* to strengthen their act of proposing that a proposition be part of the common ground.

### 4.2 Imperatives

In imperatives, *ma* intensifies the speaker's act of expressing their preference for the hearer to do something. In a sense, it has the effect of imploring the hearer to do the action. Again, there must be reasons for a speaker to intensify their speech act, and in the case of imperatives, *ma* is often added when either:

1. the hearer has expressed reluctance towards following the command
2. the speaker thinks the hearer should have already done something

(41) is an example of Context 1. Imagine a situation in which Speaker A passes Speaker B's open dorm room. B is playing a boardgame with their roommate, and when they see their friend A walk by, they tell A come in and join the game. If A refuses and says they are about to study, B could say (41).

(41) 近来 嘿/嘛!
    *jĩlãi*  *ma!*
    Come-in *ma*
    ‘Come in!’

    (I really think it should be the case that) you come in!

Using *ma* in this context is acceptable because Speaker A has already expressed that they are unwilling to go in. I will note that *ma* is not necessary and (42), the equivalent command without *ma*, is certainly acceptable here.

(42) 近来!
    *jĩlãi*
    Come-in
    ‘Come in!’

    (I think it should be the case that) you come in!
But the overall context allows for an intensification of the command. Speaker B had established that they wanted A to come in but was refused, so they could use ma to more strongly insist that A follow their command.

A speaker can also use ma in commands even if the hearer has not expressed unwillingness. However, in these cases, the speaker may think that the hearer should have already done the action in the imperative, so they make the command explicit and emphasize it using ma. This would be an example of ma used in Context 2.

For instance, if Speaker A and Speaker B are discussing a topic that Speaker C has had firsthand experience with, but C has not yet said anything, A or B may say (43) to C.

(43) 想 什麼 吗/嘛！
     Shuò shénme  ma
     say  something  MA
     ‘Say something!’

(I really think it should be the case that) you say something!

While they could also say the equivalent command without ma, the fact that they expected C to have already said something makes their use of ma acceptable.

At this point, we can see connections between the assertion and imperative contexts where ma occurs. The particle is used when trying to convince the speaker to believe or to do something. It is also used when the speaker assumes the purpose of their utterance is somewhat known—either the proposition should already be in the common ground (assertions), or the hearer should have already done the action (commands). These parallels are not surprising given that the most basic reason to use ma is to emphasize the speech act. It is simply that this reason is realized in different ways across sentence types.

4.3 Questions

The frequent use of ma in polar questions is partly what has led scholars to believe that two different ma particles exist. While it is tempting to analyze it as a syntactic question particle, I argue that ma in polar questions is still a speech act intensifier. I will account for the occurrences of ma in alternative questions and Wh- word questions as well.

4.3.1 Polar Questions

As illustrated in §2.2, Mandarin polar questions can be formed with only intonation, and such questions are used to confirm information. In (44b), Speaker B just heard what Speaker A said and is trying to confirm it.
In (44b), Speaker B cannot use *ma to intensify their act of questioning since they are already have some information to work with. They are only trying to make sure the information is correct. To give an English comparison, if someone said ‘John and Sue are in the office,’ a confirmation question like (45) would be acceptable, while an open question like (46) would not.

(45) John is in the office?
(46) *Is John in the office?

I argue that adding *ma strengthens the act of questioning so that the confirmation question becomes more like an open question—meaning it could not be used to confirm information—but is not quite as open as an A-not-A question. The A-not-A structure is shown in (47), with its corresponding *ma polar question shown in (48).

(47) 你 吃 不 吃?
    *Nǐ chī bù chī?
    2SG eat NOT eat
    ‘Will you eat or not?’

(48) 你会 吃 吗/嘛?
    *Nǐ huì chī *ma?
    2SG will eat MA
    ‘Will you eat?’

This shift from confirmation question towards open question that *ma triggers would also explain why, as Li and Thompson (1981) have observed, *ma polar questions are less neutral than A-not-A questions. On the other hand, it also explains why *ma polar questions do not express the speaker’s bias as strongly as confirmation questions do.

Fiengo (2007) claims that when a speaker is trying to ‘acquire beliefs,’ they will ask open questions, but when they are trying to ‘establish beliefs,’ they will ask confirmation questions (Fiengo 2007:54). If we were to put these question types on a spectrum showing the speaker’s desire to acquire vs. establish beliefs, *ma polar questions would fall somewhere in the middle. The speaker
thinks of an assertion, but is not fully committed to it and wants the hearer to confirm whether or not it is true. Therefore, they ask a *ma* polar question rather than a more neutral A-not-A question. Using *ma* only works when the hearer has not said anything explicit regarding the question yet. If they had, the speaker should ask a *ma*-less confirmation question. So in a sense, *ma* signals that the speaker wants 'confirmation' about a proposition that has not yet been discussed, but that they have come up with.

For a sentence like (49), the question operator is realized as intonation, and it is relatively weak, resulting in a confirmation question. Adding the speech act intensifier *ma* boosts the act of seeking information and pushes the question towards being more of an open question.

(49) 张三 在办公室 (吗/嘛)?
Zhāngsān zài bōgōngshì (ma)?
Zhangsan at office (MA)
‘Is Zhangsan in the office?’
(I (really) think it should be the case that you tell me if) Zhangsan is in the office.

4.3.2 My analysis in relation to Liing’s (2014) analysis of *ma*

Now that I have established my analysis of *ma* in polar questions, it would be worthwhile to discuss Liing’s (2014) analysis of *ma*. While Liing does not discuss MA2 or attempt to unify it with MA1, she does argue that *ma* should not be analyzed as a yes-no question particle.

In particular, she does this by noting in the same way I did that polar questions with *ma* are confirmation questions even prior to the addition of *ma*. According to her, since they are confirmation questions rather than open questions, they are less neutral than other Chinese alternative questions. A polar question with *ma* can be answered with *duì/bù duì* ‘correct/incorrect’ as opposed to the verb given in A-not-A questions, suggesting that its function is to confirm.

Since *ma* occurs after a complete clause, which without the particle is a confirmation question, Liing views *ma* as a type of presupposition particle. According to her, adding MA1 to a confirmation question expresses that the speaker presupposes neither a positive nor a negative response. They have ‘insufficient belief *p*’ (Liing 2014:37), meaning they might guess that *p* is true, but are not sure if they are right. This is in contrast to using *ba*, which Liing claims to indicate the speaker’s positive presupposition.

Both Liing’s analysis and my analysis deal with the effect that *ma* has on a confirmation question. The difference is that in Liing’s analysis, adding *ma* keeps the question neutral because the speaker is unsure of what the response will be. In my analysis, *ma* intensifies the act of questioning because the speaker has not received any verbal commitment from the hearer regarding the proposition.
So the result is that the question becomes more open—and consequently more neutral—than a bare confirmation question without *ma* would be.

While considering *ma* to be a presupposition particle may sufficiently explain its occurrence in polar questions, Liing did not discuss the use of *ma* in assertions, imperatives, and non-polar questions. However, under my analysis, we can account for the occurrence of *ma* in all of these sentence types. I have just shown how *ma* functions as a speech act intensifier in assertions, imperatives, and polar questions. In the following section, I will explain how my analysis accounts for its occurrence in non-polar questions.

### 4.3.3 Alternative Questions

Although *ma* is commonly seen in polar questions, it can also occur in alternative questions containing *haishi* ‘or’ as well as alternative questions formed with the A-not-A structure. It still intensifies the act of questioning and is used particularly when the speaker is eager for an answer but the hearer either hesitates or is reluctant to provide it.

Consider a situation in which the speaker asks the hearer if they want to drink tea or coffee. If the hearer has been indecisive to the point of frustrating the speaker, the speaker could then say (50), a *haishi* alternative question.

(50) 你想 和 咖啡 还是 茶 吗/嘛?
*Nǐ xiǎng hé kāfēi *haishi* chá ma?*
2SG want drink coffee or tea MA
‘Do you want to drink coffee or tea?’

(I really think it should be the case that you tell me if) you want to drink coffee or tea.

The first time the speaker asked the question, they would not have used *ma*. But since the hearer has not been responsive, the speaker can reiterate their question and more strongly question the hearer by using the particle.

Alternatively, if the speaker asks the hearer if they want to drink coffee, and the hearer hesitates extensively, the speaker could say (51), an A-not-A alternative question.

(51) 你 想 不 想 吗/嘛?
*Nǐ xiǎng bù xiǎng ma?*
2SG want not want MA
‘Do you want to or not?’

(I really think it should be the case that you tell me if) you want to or not.

In both cases, the speaker is intensifying their act of questioning because they have not received a satisfactory response. Again, this parallels how *ma* is used in assertions and imperatives. It can
be used when the hearer is uncooperative in some way. They disagree with an assertion, do not perform the action named by the command, or are not giving a satisfactory response to the question.

4.3.4 **Wh- Questions**

Similar to the use in alternative questions, *ma* occurs in *Wh-* questions when the speaker has a reason to emphasize their act of questioning.

For instance, if a teenage child had been out late and refuses to tell their mother where they were, the mother may ask (52).

(52) 你 昨 夜 去 了 哪儿 吗/嘛?
*Nǐ zuó yè qù le nǎr ma?*
2SG yesterday night go ASP where MA
‘Where did you go last night?’

(I really think it should be the case that you tell me) where did you go last night.

Additionally, a speaker could ask (53) if they found someone’s response to their question to be unsatisfactory.

(53) 你 在 说 什 么 嘛?
*Nǐ zài shuō shénme ma?*
2SG are say what MA
‘What are you saying?’

(I really think it should be the case that you tell me) what are you saying.

While *ma* is not as common in alternative and *Wh-* questions, it is clear that when it does occur, it still functions as a speech act intensifier.

At this point, I wish to point out another possible reason for the widespread understanding of *ma* being a polar question particle. Since the non-polar questions have distinct structures—namely *haishi, Wh-* words, and the A-not-A structure—that indicate that they are questions, the function of *ma* is more readily seen as something other than a question particle. However, since polar questions are formed with intonation, which exists but is more subtle in tonal languages like Mandarin, *ma* may have become more closely associated with polar questions and eventually taken to be a polar question particle. I will leave this as a working hypothesis to be considered at another time.
5 Uses of *ma* Unaccounted for in This Analysis

There are other observed uses of *ma* that I did not discuss in my analysis for various reasons. These include:

1. *ma* as a topic marker
2. *ma* in *sajiao* speech

5.1 Topic Marking

The topic-marking function of *ma* has been observed by various authors, including Chappell (1991) who was studying *MA₂* in isolation from *MA₁*. This use of the particle is unique from the others because of its non-sentence-final position, as shown in (54).

\[(54)\] Topic-Marking:

\[
\text{This, I also know.} \\
\text{Zhè ge } \text{ma, wǒ yě zhīdào}. \\
\text{this CL MA₂, 1sg also know} \\
\text{‘This, I also know.’}
\]

According to Chappell, the use of *ma* in sentences like (54) still falls into the category of the marking something that is ‘self-evident’ and was ‘previously mentioned subject matter,’ therefore being ‘obvious’ to the interlocutors.

It is likely that this topic-marking *ma* is the same speech act intensifier that I have been discussing since it draws attention to the topic. However, I chose not to include it in my analysis because of a lack of a robust way to model the illocutionary force of a single topic.

5.2 *Sajiao* Speech

My consultants unanimously brought up the common use of *ma* in what is called *sajiao* behavior. This can be explained as a child-like behavior that adults intentionally display. It is characterized as something that women, though not exclusively women, will use when interacting with their significant other or close friends in order to garner attention and appear more feminine. An example of this is shown in (55).

The context for (55) is that Speaker *A* and Speaker *B* are close friends or partners, and *A* hopes that *B* will say *B* likes cats. Thus, *A* is using *sajiao*. The second *ma* is what my consultants saw as common in *sajiao* speech.

\[(55)\] Use of *ma* in *sajiao* speech:
a. A: 你 喜歡 貓 嗎/嘛?
   Ni xihuan mao ma?
   2SG like cat MA
   ‘Do you like cats?’

b. B: (no response)

c. A: (你) 喜 不 喜歡 嗎/嘛?
   (Ni) xi bu xihuan ma
   (2SG) like not like MA
   ‘Do you like them or not?’

While I have no explanation for why this use of ma is prominent in sajiao speech, I believe this use is quite similar to the use of ma in A-not-A questions which I have discussed §4.3.3. It may even be possible to account for (55) using my analysis. Perhaps the second occurrence of ma is explained because Speaker A:

1. does not have any information regarding the original question
2. had already asked once but received no reply
3. wants to convince B to say they like cats

Thus, A may want to intensify their question, resulting in the use of ma.

However, I chose not to flesh this out in my analysis as my consultants noted that sajiao is a rather niche and recent development. Additionally, while ma is common in sajiao speech, the most defining feature of sajiao speech is the speaker's intonation. It seems that this way of speaking is closer to slang than a genuine dialect given that its use is limited to a certain age and social group, it has very few grammatical distinctions, and it is used only in informal interactions between people of a certain kind of relationship. Ultimately, I have not focused my research on this phenomenon and will not make any claims regarding it.

6 Other analyses of ma

Semantic analyses of ma can be found in Chappell (1991) and Lepadat (2017). Their works are written from the perspective that there are two distinct ma particles, and as such, their papers only deal with one of the ma particles—MA2. Reviewing their analyses here would be helpful in understanding why many scholars have treated MA1 and MA2 as different particles, as well as to explain how my analysis interacts with theirs.
6.1 Chappell (1991)

Chappell identifies three functions of the ‘self-evident’ MA₂: to mark a topic (56), to assert a logical or causal connection between two propositions (57), and to express a negative emotion—such as indignation or impatience—when the hearer disagrees with what the speaker perceives as truth (58). In all three cases, she says MA₂ indicates a type of evidentiality, though the topic marking function has not been analyzed as extensively.

(56) Topic-Marking:

This, I also know.

(Chappell 1991)

(57) Logical Connection:

‘After that, he'd hurt himself of course.’

(Chappell 1991)

(58) Negative Emotion Towards Disagreement:

‘I said [to the official] I didn't think he had any need to be guilt-stricken.’

(Chappell 1991)

Chappell’s observations are all concerning assertions, and she does not discuss the occurrence of ma in imperatives and questions. With the exception of the topic-marking ma which I discussed in §5.1, the two other uses of MA₂ that Chappell discuss can be accounted for by my speech act intensifier analysis. In the case of (57), something in the context made it clear that the man hurt himself, so it is reasonable for the speaker to strengthen their act of asserting this fact. In the case of (58), the laughter signals some kind of disbelief on the hearer’s part. Thus, Speaker B uses ma because Speaker C should know that they are trying to convince C of the validity of what they had originally said.
6.2 Lepadat (2017)

Lepadat provides an extensive review of the various uses of *ma*, and ultimately defines its function as being a marker of “Interpersonal Evidentiality.” A marker of IE alerts the hearer that the information being spoken should already be agreed upon by everyone. That is, regardless of where the speaker got the information from, they are presenting it as a reliable piece of information that everyone should acknowledge.

A key difference between the IE analysis and my analysis is that in IE, the speaker uses *ma* to assert that the proposition is already part of the common ground. However, in my speech act intensifier analysis, *ma* marks the speaker’s stronger intention for it to be common ground since assertions are only proposals to update it.

Lepadat also claims that uses of *ma* are important to the expression of politeness and serve as a face-saving acts, and that all meanings attributed to *ma* in the literature surrounding it can be considered to be an extension of IE marking. According to her, *ma* in imperatives helps speakers save face by giving an obvious reason for the hearer to follow the command. My consultants agreed that adding *ma* to a command can make it sound more polite, but this is not always the case. Depending on the tone of voice, using *ma* can in fact sound less polite. If anything, using it is a way for the speaker to express—politely or impolitely—that they more intensely want the command to be acted out.

Finally, while Lepadat’s paper primarily delves into an analysis of MA₂, in order to distinguish MA₁ from MA₂, she provides an argument that these are different particles. Namely, she articulates how Chinese questions only contain one interrogative device. If for instance, a Wh- word or an A-not-A structure is employed in a question, the yes-no marking MA₁ should not occur in the sentence. But since sentences like (59) and (60) were found in the Sinica Balanced Corpus of Modern Chinese, Lepadat concludes that MA₂, a non-question forming *ma*, exists.

(59) **Wh- + ma:**

你 在 說 什麼 嘛?
*Nǐ zài shuō shénme ma?*  
1SG be say *what* MA₂

‘What are you saying?’  
*(Sinica Corpus)*

(60) **A-not-A + ma:**

對 不 對 嘛?
*Dùì bù duì ma*

Right not right MA₂

‘Is it right or not?’  
*(Sinica Corpus)*
However, this data can still be accounted for in a single particle analysis as I have shown in §4.3.3 and §4.3.4. The question reading comes from the question word and the A-not-A structure, and *ma* as a speech act intensifier only increases the force of the speech act.

7 Conclusion

The Mandarin particle *ma*, though widely regarded to be two distinct particles, should be analyzed as being a single particle that functions as a speech act intensifier. In this paper, I provided data on Mandarin question prosody that supports unifying the particles. I demonstrated how analyzing *ma* as a speech act intensifier can account for occurrences of *ma* across assertions, imperatives, and questions of various types. For each category of speech act, there are similar contexts in which *ma* becomes acceptable, namely when the speaker interacts with a recalcitrant hearer whose response is disagreement, refusal, or hesitation. Finally, I reviewed what others have said about *ma* and explained how their analyses differed from mine.

While my analysis may be further developed to capture other uses of *ma* that were not accounted for here—whether intentionally or unintentionally—my goal in this paper has been to come up with a more comprehensive understanding of *ma*'s function. By piecing together what various authors have already said about *ma* and Mandarin polar question, I have argued to unify the *ma* particle rather than accept that there are multiple ones.

Although I focused on a specific particle in the Mandarin language, the idea of a morpheme that intensifies a speaker's speech act has not been proposed prior to my analysis. My hope is that speech act intensifiers like *ma* will be investigated further in other languages. If cross-linguistic evidence for them is found, we will have uncovered a feature of languages that has not yet been widely researched and that can provide further insight into how human languages work.

7.1 Directions for Future Research

There are a few remaining issues regarding *ma* that I recognize have yet to be addressed. These include the use of *ma* in rhetorical questions and tag questions.

7.1.1 Rhetorical Questions

In the case of polar questions that are also rhetorical, *ma* becomes entirely optional, as shown in (61).
My consultants have shared that they find hardly any difference between having *ma* and not having it in these questions. The fact that an intensifier can have no effect on the speech act is puzzling. It may be that the speech act intensifier does not have a substantial effect on the speech act of rhetorical questions, which are entirely non-inquisitive to begin (Biezma and Rawlins 2017).

Alleton (1988) identified the following syntactic structures as structures that force a question to have a rhetorical reading in Mandarin.

1. *nandao* (meaning ‘could it be,’ ‘dare you say,’ ‘do you mean to say’)
2. NEG + ADV (such as *bu ye, bu hai*)
3. AUX + NEG (such as *neng bu*)
4. NEG + *dei*

Perhaps these structures, which limit the reading of the question to being rhetorical, interfere with the act of questioning and render the effect of *ma* null. This issue may be addressed in future work.

### 7.1.2 *ma* in Tag Questions

The final issue that I have yet to resolve is the mandatory *ma* in tag questions, as shown in (62) and (63).

(62) 你 在 北京 工作, 是 *(吗/嘛)*?
*Nǐ zài běijīng gōngzuò, shì *(ma)*
2s work Beijing NEG is *(MA)*
‘You work in Beijing, right?’

(63) 你 在 北京 工作, 不 是 *(吗/嘛)*?
*Nǐ zài běijīng gōngzuò, bùshì *(ma)*
2s work Beijing NEG is *(MA)*
‘You work in Beijing, don’t you?’

This *ma* seems be evidence in favor of *ma* being a syntactic question particle. I have not yet found a way to account for this in my speech act intensifier analysis, and it is something that requires further research.
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