mage: a Bias Discourse Particle in Interrogatives

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Abstract

This study aims to investigate the role of the Farsi particle *mage* in interrogative sentences, including polar questions and Wh-questions. It will be demonstrated that the appropriate setting of *mage* hinges upon the interplay of two contrasting biases: contextual bias and speaker's bias. While polar questions readily provide a proposition that facilitates the identification of these biases, complexity arises in Wh-questions due to the absence of a complete propositional element. To bridge this disparity, I propose the concept of *answerhood* (inspired by Theiler 2021) as the relevant notation that offers the essential object source for *mage*. This proposal establishes the precise conditions under which *mage* becomes felicitous and elucidates its meaning in connection with the contextually constrained answerhood, applicable to both polar and constituent questions.

Keywords: discourse particles, bias, questions, semantics

1 Introduction

Discourse particles serve as valuable tools for organizing conversations by integrating an utterance into the ongoing discourse. These small lexical elements typically do not contribute substantially to the core propositional content; instead, they convey expressive nuances that help conveying information that would otherwise necessitate elaboration by the speaker or inference by the interlocutor. Consequently, many studies investigated the intended meanings conveyed by these particles, as well as delineating the felicity conditions that capture the required properties of the discourse or the participants involved.

Zimmermann (2011), for instance, introduces three fundamental semantic core functions for discourse particles in German: **(i)** marking the expression as part of the Common Ground (e.g., *ja*), **(ii)** signifying that the expression is not associated with one of the discourse participants (e.g., *doch*), and **(iii)** weakening the commitment to the expression (e.g., *wohl*). More recently, Theiler (2021) offers instances of particle *denn* being felicitous in Wh-questions but not in polar questions, an observation that could not be satisfactorily explained either by the expressive meaning or the conventional

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felicity conditions of *denn*. Theiler contends that for certain particles, such as *denn*, it is necessary to consider "which notion of semantic conten" is associated with them. She argues that while discourse particles are typically tied to the informativity notion in declaratives (conceptualized as a proposition), this notion becomes more tricky in information seeking questions. Following the framework outlined by Roelofsen & Farkas (2015), Theiler (2021) suggests that the relevant notion in questions is the *highlighting* concept.[1] In her proposal, particle *denn* signifies that learning the highlighted proposition is a prerequisite for the speaker to proceed the discourse.

The examination of Farsi particle *mage* demands similar considerations. It is important to note that in non-interrogative contexts, *mage* often translates to 'unless' (see Section 4 for further discussions). However, this study confines its exploration only to the discursive role of *mage* in interrogatives. Much like several other discourse particles exhibiting dual functionality (e.g., *ja* and *denn* in German, as explored in Lindner 1991, Theiler 2021), I consider the interrogative use of *mage* as homonymous with its conditional counterpart in non-interrogative contexts. Any analysis concerning the conditional application of *mage* remains a topic for future investigations.

A comparison between minimal pairs of polar questions with and without particle *mage* reveals that this particle conveys additional information pertaining to both the speaker's prior belief/expectation and the contextual evidence within the given discourse. For instance, consider example (1), a typical polar question in Farsi [*p*?], which simply inquires whether or not Ali came to the party. In contrast, example (2) poses the same query but conveys that the speaker had a prior expectation against the question prejacent, *p*. In other words, the speaker did not anticipate that *Ali came* (Mameni 2010). In this paper, I will argue that *mage* also necessitates the presence of contextual evidence supporting the prejacent. Consequently, (2) implies that the speaker did not expect that *Ali came*, while the context suggests otherwise.

(1) *Ali mehmuni umad?*
     Ali party   came
     'Did Ali come to the party?'

(2) *mage   Ali mehmuni umad?*
     MAGE Ali party   came
     'Did Ali come to the party?'

While it is relatively straightforward to reconstruct the bias implicature and contextual requirement of *mage* in (2) by considering the propositional prejacent within the polar question, the same process does not readily apply to Wh-questions (WhQs). To illustrate this discrepancy, consider examples (3) and (4), both of which elicit a list of individuals at the party. The specific implication about the speaker's expectation and related evidence, conveyed by *mage* in (4), remains somewhat unclear. A more

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[1]Roelofsen & Farkas (2015) provides a unified analysis of various sentence types, including declaratives, polar questions, and Wh-questions in the inquisitive semantics. They achieve this by proposing that every sentence *highlights* an *n*-place property, where *n* signifies the count of Wh-elements within the sentence, with $n \geqslant 0$. In the case of declarative and polar interrogative sentences, which lack any Wh-elements, the value of *n* remains at zero. Consequently, these sentence types highlight *0*-place properties (e.g. '*John likes Mary.*' and '*Does John like Mary?*' are $[\lambda w.L(m)(j)(w)]$), giving rise to a proposition. Conversely, in Wh-questions, the value of *n* corresponds to the number of Wh-elements in the sentence, which results in highlighting *n*-place properties (e.g., '*Who likes Mary?*' $[\lambda x.\lambda w.L(m)(x)(w)]$) (for details see Roelofsen & Farkas 2015, and also Theiler 2021).

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nuanced understanding of these instances will be achieved through an exploration of the discourse analysis of *mage*.

(3) *ki   mehmuni umad?*
    who party   came
    'Who did come to the party?'

(4) *mage   ki   mehmuni umad?*
    MAGE who party   came
    'Who did come to the party?'

The subsequent section will provide more examples of *mage* in polar and constituent questions within various contextual settings, demonstrating the particle's consistent behavior across both question types. In Section 3, I will introduce a unified analysis grounded in the *answerhood* notation to elucidate the meaning of the discourse particle *mage* in both polar and constituent questions. I will argue that *mage* refers to the set of contextually restricted answers in these questions. In Section 4, an overview of previous studies on *mage* will be presented, offering insights into the existing body of research on this topic. Finally, the paper will conclude in Section 5, summarizing the key findings and contributions made in this study.

2 The Data

A large and growing body of literature has undertaken investigations into questions that necessitate either the presence of the speaker's prior epistemic belief, referred to as Original Bias (OB) (Ladd 1981, Romero & Han 2004), or the existence of Contextual Bias (CB), which denotes contextual evidence that is mutually accessible to all participants within a conversation (Büring & Gunlogson 2000). Domaneschi et al. 2017 have investigated the interplay between these bias types. Therefore, different types of questions are felicitous in contexts that facilitate their required type of bias.

The discourse particle *mage*, which can appear in both positive and negative polar questions, expresses speaker's prior belief against the uttered proposition in the question, namely the prejacent (cf. *really*-questions in Romero & Han 2004). Hence, in positive polar questions, as in (5), the speaker maintained a prior belief that Ali did not come to the party. Conversely, in negative polar questions, exemplified by (6), it conveys that the speaker believed that Ali came.

(5) *mage   Ali mehmuni umad?*
    MAGE Ali party   came
    'Did Ali come to the party?'

(6) *mage   Ali mehmuni na-yumad?*
    MAGE Ali party   NEG-came
    'Did Ali not come to the party?'

Regarding the speaker's contradictory belief, Mameni (2010) illustrates that the utilization of *mage* is inappropriate in contexts that do not provide such expectation. Consequently, given that example (7) implies that the speaker did not expect Ali went to the party, the question is accurately predicted to be infelicitous (#) in Context 1 (as well as in out-of-the-blue contexts).

(7) A: mage Ali mehmuni umad?
    MAGE Ali party came

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'Did Ali come to the party?'

> **#** **Context 1:** A calls B to know about the guests who went to the party.

> **#** **Context 1.1:** ...A didn't think that Ali went to the party.

> **✓** **Context 1.2:** ....B says that she had a nice conversation with Ali. A didn't think Ali went to the party.

Although the continuation of context 1 in Context 1.1 introduces the OB, question (7) remains infelicitous (**#**). In other words, the suggested implicature, which pertains to the speaker's belief, does not suffice to account for the infelicity observed in Context 1.1. Context 1 becomes felicitous (**✓**) when it is continued as in 1.2, thereby the context provides evidence (CB) in favor of the question prejacent. Therefore, the felicitous setting for *mage* necessitates the presence of both OB and CB in reverse polarity.

Moving on to Wh-questions, the discourse particle *mage* finds application in various WhQs, as demonstrated by examples (8)-(11).

(8) *mage   ki   umade?*
MAGE who came
'MAGE who did come?'

(10) *mage   koja   rafti?*
MAGE where went
'MAGE where did you go?'

(9) *mage   či   xaridi?*
MAGE what bought
'MAGE what did you buy?'

(11) *mage   kei   rafti?*
MAGE when went
'MAGE when did you go?'

Let us focus on the first example, involving the constituent question particle *ki* 'who' within an appropriate context. In a similar setting of our polar question above, in (12), the context in 1 does not provide any information for asking a biased question, thus rendering it infelicitous. Its continuation in 1.1 convey that the speaker didn't expect that there would be any famous guests in the party, however, this alone is insufficient to trigger a *mage* question. Finally, Context 1.2 provides the required evidence that there were some celebrities at the party, as well as speaker's contrary expectation. Notice that even though question (12) does not overtly state a specific proposition that indicates speaker's belief, the presence of *mage* implies that the speaker maintains a contradictory belief in relation to the contextual cues, which is the restricted set of guests who are celebrities among all those went to the party.

(12) *A: mage   ki-â   umadan?*
MAGE who-PL came
'MAGE who did come?'

> **#** **Context 1:** A calls B to know about the guests who went to the party.

> **#** **Context 1.1:** ...A didn't expect there might be any celebrities at the party.

> **✓** **Context 1.2:** ....B says that it was fun to see some celebrities there. A didn't expect that there might be any celebrities at the party.

In the (felicitous) context provided for (12), the speaker's inquiry pertains specifically to the celebrities present at the party, rather than the entire guest list. We need further exploration to understand how *mage* influences the potential answers.

Consider example (13), where we have a list of professors:{Sara, Ali, Leila, Omid, Jila}, with only {Sara, Ali} being famous. Semantically, the same question, '*Who did you invite?*', is posed in (A1) and (A2). When we take the context into account, we find that both answers in (B1) and (B2) are acceptable responses to (A1), albeit with varying degrees of preference. However, only (B2) is appropriate in response to (A2).

(13) A and B and C are the organizers of a conference. A wants to finalize the list of the invited guests.

A: Let's make a list. Who did you invite?

B: I invited some professors, two of them are so famous.

A1: *ki-â   ro   davat kardi?*
      who-PL ACC invite did?
     'Who did you invite?'

A2: *mage   ki-â   ro   davat kardi?*
      MAGE who-PL ACC invite did?
     'Who did you invite?'
     ⤳ The speaker didn't expect any famous professors.

B1: I invited Sara, Ali, Leila and Omid.

B2: I invited Sara and Ali.

In other words, in (A1), the speaker might be interested in either the comprehensive list of invited professors or, based on the context, specifically the famous ones. Consequently, both (B1) and (B2) can be considered acceptable answers, each catering to a different interpretation of the question. It is worth noting that factors such as an enthusiastic intonation and expressive elements like the use of *awesome*, can lead the interpretation towards the contextually restricted set of famous professors, as opposed to the entire guest list. For instance, if speaker A prefaces the question in (A1) with an exclamation like *âlie!* 'Awesome!' or employs an enthusiastic intonation, then (B2) is more likely to be inferred as the answer over (B1).

Conversely, particle *mage* in (A2) implies that the speaker didn't expect any famous professors being invited, thereby narrowing the inquiry exclusively to the famous ones. Consequently, if B begins listing all the invited professors, similar to (B1), speaker A would explicitly state that she meant which famous professors. Thus, (B2) is the appropriate response to question (A2). It is crucial to emphasize that expressive terms such as *âlie!* 'Awesome!' or variations in prosody, whether usual or enthusiastic intonation, do not impact the acceptability of answers in (A2). That is, while both answers in

response to (A1) are somewhat acceptable, the situation differs for (A2), where the issue pertains to felicity rather than a matter of answer preference.

All together, this analysis demonstrates that in both polar and constituent questions, *mage* requires the presence of contextual evidence/restriction. In polar questions, the question prejacent aligns with the contextual evidence, forming the foundation for *mage* to convey the speaker's contrasting prior belief. Similarly, in Wh-questions, contextual evidence works to narrow down the set of potential answers, and *mage* alludes to this restriction by indicating that the speaker did not anticipate such a limitation. In the next section, I present a proposed framework grounded in the concept of answerhood within question semantics.

3 Proposal

In this section, I posit that the requirement of contextual evidence in *mage*-questions establishes a vital semantic object, which subsequently serves as an anaphoric reference by *mage*. The context plays a crucial role in delineating the topic of discussion by narrowing down the range of alternative answers. Specifically, in polar questions featuring *mage*, the question prejacent indicates the restriction over the contextual evidence. Similarly, in *mage*-WhQs, the evidence functions to obligatorily confine the range of alternative answers to a subset list. In both question types, *mage* refers to the restricted set object, indicating that the speaker didn't anticipate such a constraint.

The discursive function of *mage* in both polar and constituent questions can be effectively formalized using the *Answerhood* notation, which focuses on the answer space rather than the specific proposition expressed in polar questions. According to existing literature, the denotation of a question consists of a set of propositions representing the potential answers (Hamblin 1973, Karttunen 1977). On one hand, in polar questions, $[\phi?]$, the denotation is a binary set $\{\phi, \neg\phi\}$, including both positive and negative answers. In WhQs, $[wh_x\ p?]$, on the other hand, the denotation can yield multiple members $\{p(x)|x \in D_e\}$, signifying the possible responses to the question.

It is worth noting that the alternative set of answers can be contextually constrained, meaning that the restricted set represents a subset of all potential alternatives (cf. contextual variables in Martinez 2003). I argue that these evidential constraints, particularly in WhQs, introduce an specific semantic object that can be anaphorically referred to using *mage* (cf. Theiler 2021). In this context, the restriction generates a proper subset from the set of alternatives.

Therefore, given the restricted alternative set, we formulate the denotation of *mage* as in (14). Here, the contextual evidence specifies the subset answerhood, Q', as the required semantic object by *mage*, while the particle conveys that the speaker did not anticipate such a constraint.

(14) $\llbracket mage\ \phi? \rrbracket = \llbracket \phi? \rrbracket$, provided that there is a proper subset Q' of $\llbracket \phi? \rrbracket$ such that for all q in Q':

    - q is supported by the contextual evidence, and

    - the speaker did not expect q.

Furthermore, I propose that *mage* in questions should adhere to specific felicity conditions. As discussed earlier, *mage* demands a setting, in which speaker's expectation (OB) contradicts the contextual evidence (CB), outlined as $[CB(\phi) + OB(\neg\phi)]$. This prerequisite prohibits the use of *mage* questions where the contextual evidence aligns with the question prejacent (and it is inline with OB). The necessity of this condition will become evident shortly.

Starting with polar questions in (7), repeated in (15), the question's denotation comprises the alternative set of answers in (a). The contextual evidence *that Ali came* generates the semantic objects of the limited set of answers, as illustrated in (b). Examining the (contextually) restricted set in (b) and the (semantic) alternative set in (a) results in the required condition of a proper subset in (c) and (d), where *mage* signals that the speaker didn't expect the restriction to hold.

(15) MAGE did Ali come?

    a. $\llbracket$mage did Ali come?$\rrbracket = \{come(a), \neg come(a)\}$

    b. By Contextual Evidence: $\{come(a)\}$

    c. $\{come(a)\} \subset \{come(a), \neg come(a)\}$, and

    d. The speaker didn't expect that Ali came.

Moreover, the use of *mage* in polar questions must exhibit the felicity conditions, $[CB(\phi) + OB(\neg\phi)]$. In Context 1.2 for example (7), the contextual evidence is in favor of *Ali went*, $CB(p)$, while the speaker's expectation is to the contrary, $OB(\neg p)$. This setting aligns with the required conditions for *mage*. The outlined felicity condition precludes (15) in the context, where the evidence favors the statement *Ali didn't come*, although this evidence might prepare the required subset alternative set in (c).

Moving on to WhQs in example (13), repeated here as (16), the (unrestricted) set of alternatives yields a list of all the invited professors, as in (a). However, the context implies the existence of a restricted list of famous invited professors, narrowing down the scope of alternative answers to a subset list in (b). In such settings, *mage* can be appropriately employed since the subset condition aligns with the context in (c), and the particle conveys that the speaker did not expect this constraint.

(16) MAGE who did you invite?

    a. $\llbracket$mage who did you invite$\rrbracket = \{invited(x) \mid Professor(x)\}$

    b. By Contextual Evidence: $\{invited(y) \mid Professor(y) \wedge famous(y)\}$

    c. $\{invited(y) \mid Professor(y) \wedge famous(y)\} \subset \{invited(x) \mid Professor(x)\}$

    d. The speaker didn't expect any famous professors.

Finally, it is worth noticing that the proposed analysis predicts that *mage* is not appropriate in alternative questions (AltQs). These questions, characterized by their lack of bias, manifest a symmetrical interest from the speaker in either of the disjunctively offered alternatives. Consequently, AltQs are unsuitable for situations where either the speaker or the context exhibits a preference for one proposition over its alternative (Bolinger 1978, Biezma 2009, amongst all).

In Farsi, AltQs can be structured in two forms. In the first form, the second conjunct incorporates the particle *na*, as demonstrated in (17). In the second form, the predicate from the first conjunct appears in reverse polarity as in (18). The specific differences between these forms are not within the scope of this study. However, what is pertinent to our discussion is that the minimal pairs of both types of AltQs with *mage* in (19) and (20) are infelicitous.

(17) *Ali umad ya na?*
     Ali came or no

     'Did Ali come or not?'

(18) *Ali umad ya na-yumad?*
     Ali came or NEG-come

     'Did Ali come or not?'

(19) *# mage   Ali umad ya na?*
     MAGE Ali came or no

(20) *# mage   Ali umad ya na-yumad?*
     MAGE Ali came or NEG-came

The intended meaning of the examples above corresponds to the set of answers $\{come(a), \neg come(a)\}$. However, accounting for speaker's bias and contextual evidence, the definition of *mage* in (14) fails in both steps. Firstly, the condition for contextual support is not met, hence, there is no object for the subset alternatives. Secondly, AltQs signal the symmetric interest of the speaker in whether Ali came or not. Therefore, speaker's prior expectation inherent in *mage* does not align with the felicity conditions of AltQs. In other words, none of the requirements associated with *mage* are met in contexts which are felicitous for AltQs.

Before closing this section, two noteworthy points about *mage* deserve mention. First, while I have described *mage* as anaphoric to contextual evidence, it can also be used deictically, referring to extralinguistic contextual information as its antecedent. In this sense, the variable that narrows down the alternative set can be implemented either by being anaphoric to a piece of contextual evidence or deictic to extralinguistic information. The use of *mage* is considered felicitous if the speaker can reasonably assume that the addressee can correctly identify the intended referent. Otherwise, using *mage* would be infelicitous. For instance, in example (21), the information about the potential of an important guest is conveyed by their common ground knowledge; A and B know that they clean the house only when they have important guests.

(21) **Context:** B begins cleaning the house and asks A for help. Normally, they wouldn't bother cleaning the house unless they were hosting someone important. A was not expecting to have any special guests.

    A: *mage   ki   miyâd?*
       MAGE who comes

'Who does come?'

⤳ The speaker didn't expect any important guests.

Hence, I endorse the intentional view, which posits that the resolution of reference for the restriction is a pragmatic process that succeeds if the addressee can accurately discern the speaker's referential intention.

Second, the negative expectation in the implicature conveyed by *mage* doesn't necessitate a strong belief/expectation. In negative raising constructions, the interpretation of negation in the embedded clause, e.g., '*Sara expected that Ali doesn't come,*' can have a stronger reading where the speaker holds an opinion about the complement proposition. Conversely, in the matrix clause, e.g., '*Sara didn't expect that Ali comes*', the interpretation of negation can be weaker, suggesting that the speaker may have no strong opinion in the sense that the complement clause may not be part of her active mental state. In *mage* cases, it is possible either the speaker holds some opinion about the restriction or simply didn't expect it because it was not in her mental state.

Overall, *mage* is appropriate in polar questions as well as in Wh questions, provided that the context signifies a constraint on a proper subset of the possible answers. In polar questions, where a binary set of alternatives is presented, the evidence points to a single proposition, whereas in Wh questions, where the set comprises multiple members, it can result in a subset of multiple members. The contextual evidence establishes the subset answerhood object, and the presence of the particle *mage* suggests that speaker did not expect such restrictions to hold.

4 Previous Accounts

Surprisingly, there is limited published research on the particle *mage*, leaving us with only a review of the works of Mameni (2010). In this study, Mameni posits *mage* as a genuine interrogative morpheme in Farsi, comparable to *âyâ* 'whether', differing primarily in terms of not-at-issue content. The claim that *mage* functions as a genuine interrogative element prompts discussions regarding its usage in non-interrogative contexts in Farsi, making it a good starting point for our review.

Lexically, *mage* can be understood as 'unless' in English, as evidenced by minimal pairs with *age* 'if,' demonstrated in examples (22) and (23), respectively. Logically, both examples imply the same truth-value meaning: $\neg\text{Study}(ali) \rightarrow \text{Fail}(ali)$.

(22) *Ali miofte, mage dars bexune.*
      Ali fails   unless lesson read
      'Ali fails, unless he studies.'

(23) *age Ali dars   na-xune,   miofte.*
      if   Ali lesson NEG-read fails
      'If Ali doesn't study, he fails.'

The distinction between these examples may lie in the exceptive reading of unless proposed by von Fintel (1992). Briefly speaking, (22) implies that '*Except if Ali studies, he doesn't fail.*' It is worth emphasising that in this paper, my focus has been exclusively on the role of *mage* in interrogatives. While I have proposed that *mage* functions as a discourse particle in interrogatives, it is possible that this analysis could

be extended to include both interrogative and non-interrogative forms. However, I leave the exploration of this possibility in my analysis to future studies.[2]

Mameni (2010) was aware of the potential objection posed by the non-interrogative usage of *mage* against his claim that *mage* serves as a genuine question morpheme. The author briefly addressed the issue in a footnote (see footnote 3, Mameni 2010). He posits if we consider question particles to be morphemes that operate over a proposition and result in multiple possibilities, the objection may not be hold (following the concept of *inquisitive* propositions in Groenendijk & Roelofsen 2009). Mameni argues that conditionals like (24) (adapted from Mameni 2010: p. 13) propose two possibilities: one in which it rains and another in which it doesn't rain. Thus, from a truth-conditional perspective, the sentence includes both possibilities: '*Milad comes if it doesn't rain*' and '*Milad doesn't come if it rains*'.

(24) *Milad miyad, mage   (inke) bârun biâd.*
      Milad comes MAGE COM rain   comes
      'Milad will come only if it doesn't rain.'

He then argues that since *mage* can only scope over irrealis predicates, the speaker does not commit to either of the possibilities. Hence, the conditional meaning is similar to that of questions, as both introduce the set of alternatives or partitions.

A detailed exploration of conditionals and their associated discourse commitments is required for any claim. However, in example (24), the speaker commits to the consequent, namely, that *Milad will come*, under the specific circumstance that *it doesn't rain*. In other words, if it doesn't rain and Milad doesn't come, the speaker would need to retract this commitment. This distinction becomes evident in the following examples. In polar question (25), speaker A has no particular commitment or belief, so B cannot challenge A by saying *you are wrong!*. However, in conditional (26), B can reject A's contingent-commitment.

(25) *A: Milad miyad?*
      Milad comes

      'Does Milad come?'
      B: # You are wrong! He doesn't.

(26) *A: Milad miyad, mage   bârun biyad.*
      Milad comes MAGE rain   comes
      'Milad comes, only if it doesn't rain.'

      B: You are wrong! He doesn't come even if it doesn't rain.

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[2]Certain limitations exist between *age* and *mage*. For example, **(i)** *age* sentences can retain their conditional interpretation through intonation even without the presence of *age*, whereas this is not possible for *mage*, **(ii)** the order of the antecedent and consequent clauses generally does not affect *age*-sentences but influences *mage*-sentences specially regarding the presence of negation, and **(iii)** *mage* has mood selection constraints. There is much to explore regarding the usage of *mage* in conditionals, especially in understanding its similarities and differences with *age*. However, delving into this topic falls beyond the scope of this paper. I leave the investigation for further studies.

Neither Mameni (2010) nor I have explored the non-interrogative use of *mage* in our studies. Nonetheless, while he underestimates such a role without delving into its properties, I consider it to be polysemous. I leave the study of conditionals for future research, however, I believe this aspect raises a crucial objection for claiming *mage* is *genuinely* a question morpheme.

Let's now turn our attention to the use of *mage* in interrogatives. Farsi employs falling (↓) and rising (↑) intonations in declarative and polar questions, respectively. Examples (27) and (28) constitute a minimal pair, with the former being a declarative sentence and the latter a polar question.

(27) *Ali mehmuni miyâd.* ↓
    Ali party   comes
    'Ali comes to the party.'

(28) *Ali mehmuni miyâd?* ↑
    Ali party   comes
    'Does Ali come to the party?'

Mameni claims that in Farsi, the presence of a polar question morpheme is optional. He introduces *âyâ* and *mage* as genuine question operators with different implicatures. I adopt his notation, with Q and $!Q$ representing the question operators for *âyâ* and *mage*, respectively.

(29) *âyâ Ali mehmuni miyâd?*
    Q Ali party   comes
    'Does Ali come to the party?'

(30) *mage Ali mehmuni miyâd?*
    !Q Ali party   comes
    'Does Ali come to the party?'

Mameni posits that both examples (29) and (30), akin to (28), inquire about whether or not Ali will went to the party, albeit expressing distinct not-at-issue contents. In (29), *âyâ* conveys the speaker's ignorance about the answer, whereas in (30), *mage* signals that the speaker holds a (tentative) commitment against the question prejacent. Notice the author also underscores that the default interpretation of non-morpheme questions involves the use of *âyâ*. Consequently, (28) should convey the same meaning as (29), which I highly doubt, but I leave it for future studies.[3]

To claim that *mage* is a question operator, Mameni investigates environments that exclusively allow questions while excluding other sentence types like assertions and commands. He employs the '*let me ask you a question*' test (Gunlogson 2001) to distinguish questions from other sentence forms, as illustrated in (31) (adopted from Mameni 2010: p. 14).

(31) *azat ye soâl   beporsam, ...*
    from one question ask

    Let me ask you a question,...

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[3]Although Mameni (2010) did not explicitly mention it, (28) and (29) significantly differ in terms of style. The *âyâ*-questions are highly formal and are typically reserved for written forms, while the rising-questions are the canonical form used in everyday or colloquial settings. As a native speaker, I rarely recall using *âyâ*, even in formal contexts, therefore, I withhold my judgments. However, considering his claim about the default interpretation of (rising) non-morpheme questions by the *âyâ* operator, the ignorant implicature of *âyâ* in (29) should be implied in (28). I am confident in rejecting this implication. Further studies are required to capture the ignorant implicature in each form.

a. *âyâ Milâd raft?*
   Q   Milad left
   ≈'Did Milad leave?'

b. *mage Milâd raft?*
   !Q   Milad left
   ≈'Did Milad leave?'

c. *# Milâd raft.*
   Milad left
   'Milad left.'

d. *# boro!*
   leave
   'Leave!'

Regarding the unacceptability of the declarative sentence in (c) and the imperative sentence in (d) when compared to the interrogative sentences in (a) and (b), Mameni draws the conclusion that both *âyâ* and *mage* are indeed genuine interrogative morphemes. However, he does not offer a detailed explanation or a robust argument to support this critical claim. Instead, he issues a challenge to critics, suggesting that if *mage* were not a question morpheme, it would be exceedingly difficult to account for why declarative sentences containing *mage* are invariably interpreted as questions. It is worth noting that Mameni (2010) presents sentences with *mage* using falling intonation and claims that such sentences can be read as questions.

Overall, the argument put forth by the author for *mage* as a question morpheme primarily hinges on its presence in interrogative contexts. Furthermore, to substantiate this argument, he posits conditional sentences as inquisitive in nature. I begin my exploration by his examples of questions marked with falling intonation. In Farsi, rising intonation is a prerequisite for polar questions, irrespective of whether a question marker like *âyâ* (or *mage*) is present. However, none of his examples featuring *mage* in questions with falling intonation were felicitous by my native speaker informants, as well as the author.

Moreover, Mameni claims that using two polar question markers within a single utterance is infelicitous, as demonstrated in (32) and (33), taken from Mameni (2010) (p. 12). However, considering the potential of multiple Wh-words in a single WhQ, as in example (34), the author did not provide further explanation why multiple polar question morphemes should be infelicitous.

(32) *?? âyâ mage Milad raft?*
     Q   !Q   Milad left

(33) ** mage âyâ Milad raft?*
     !Q   Q   Milad left

(34) *ki   či   xarid?*
     who what bought
     'Who bought what?'

Mameni acknowledged that judgments regarding the examples above were inconsistent, with some speakers rejecting (33) but finding (32) acceptable. He suggested two potential hatches for this judgment variation. The first suggestion posits that because *mage* can appear both sentence-medially and sentence-finally, its placement before *âyâ* hinders its movement, rendering (33) ungrammatical compared to the more acceptable form in (32). The second suggestion is that since the meaning of *âyâ* questions is distinct from the meaning of *mage*, in marginal cases like (32), the question is interpreted as *mage*-meaning. This interpretation could be achieved by positing a covert *âyâ* morpheme within every *mage* question. However, Mameni ultimately dismissed these hatches as inadequate, since they failed to account for the degraded acceptability of (32) and the restricted movement of *mage* when preceded by *âyâ*. Hence, he deemed these sentences unacceptable and claims that these morphemes could not co-occur.

I share the intuition of the informants that (32) sounds more acceptable than (33). However, I posit that the unacceptability associated with the combination of *âyâ* and *mage* primarily arise from differences in their respective styles. Specifically, *âyâ* is reserved for formal and literary contexts, while *mage* is colloquial in nature. Therefore, native speakers reject the aforementioned examples due to their contrastive style. I will show that the examples gain more acceptability within a context where the speaker can balance between formality and informality simultaneously.

There are situations in which Farsi speakers often blend elements from different linguistic styles to convey both formal politeness (i.e., *âyâ*) and informal friendliness (i.e., *mage*). While this combinations may appear unconventional, it is commonly employed in discourse. For example, consider a scenario where a grandchild is talking with their grandparents. In this context, the grandchild may wish to maintain politeness due to the age difference, but their close and friendly relationship with their grandparents also calls for an informal conversational style. Consequently, the grandchild might use the plural pronoun *šomâ* (PL-you) instead of the singular *to* (SG-you), even while conjugating the verb in the singular form. Syntactically, this structure may be considered ungrammatical, but pragmatically, it is a frequently employed and accepted practice.

(35) *šomâ   mehmuni miya-i?*
      you-PL party   comes-SG
      'Do you come to the party?'

In the context of (36), it is evident that the mother employs *šomâ* (PL-you) to address her child politely, while conjugating the verbs in the singular form, reflecting their informal and friendly mother-child relationship. In such a scenario, the use of the formal *âyâ* and the informal *mage* in combination appears reasonable. While the order of *âyâ mage* and *mage âyâ* does not significantly affect comprehension, the former is generally preferred due to the default position of *âyâ* at the sentence-initial.

(36) **Context:** In child psychology, it is suggested to speak politely with children to show that the parents respect their character. A is a young mother following this comment. She and her kid are at a party. She told the kid that he is allowed to have two cookies. She sees the kid eats the fourth cookie...

A: *âyâ mage   man be šomâ   na-goftam faqat dota širini mitun-i boxor-i?*
   Q   MAGE I   to you-PL NEG-tell only two cookie can-SG eat-SG

   'Didn't I tell you that you can only have two cookies?'

If *mage* were indeed a genuine question morpheme, its co-occurrence with *âyâ* should theoretically be implausible, primarily because they convey implicatures that potentially conflict with each other.

Lastly, it is crucial to point out that polar question operators like *âyâ* do not co-occur with other Wh-words, as shown in (37). However, as discussed earlier, *mage* can be seamlessly integrated into Wh-questions, as evidenced by (38).

(37) *# âyâ ki   miad?*
      Q   who comes

(38) *mage   ki   miad?*
      MAGE who comes

      'MAGE who does come?'

Mameni (2010) did not investigate Wh-questions, leaving this aspect unexplored for future research endeavors. The notion of a question that simultaneously integrates both polar and constituent question operators, as indicated by the data in (38), presents an intriguing avenue within the framework of his account.

5   Conclusion

In this paper, I have investigated the discursive function of particle *mage* within interrogative structures. The existing literature has established that *mage* in polar questions, [*mage* ϕ?], implicates speaker's prior belief against the question prejacent ϕ. This results in the presence of OB in the felicity conditions of *mage* questions. My contribution to this discussion has been to elucidate that the appropriate context for this particle also necessitates the presence of contextual evidence (CB) that aligns with ϕ. In addition to the felicity conditions of *mage*, this analysis was extended to encompass the usage of *mage* in Wh-questions, wherein the required contextual evidence serves to constrain a subset of alternative answers. Subsequently, I have proposed the semantics of particle *mage*, rooted in the *answerhood* notation as applied to interrogatives.

The framework put forth in this proposal relies on two distinct categories of biases, including the speaker's bias and the contextual bias, to account for the behavior of *mage* in both polar and constituent questions. Furthermore, the account naturally elucidates why *mage* is ill-suited for deployment within alternative questions, as AltQs inherently lack any type of bias necessary for *mage*. While this paper primarily focuses on the analysis of *mage* within interrogatives, the exploration of its function in non-interrogative contexts is deferred for future studies.

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