mage as a bias particle in interrogatives

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Abstract

This paper investigates Farsi particle *mage* in interrogatives, including both polar and constituent/Wh questions. I will show that *mage* requires both contextual evidence and speaker's prior belief in the sense that they contradict each other. While in polar questions (PQs) both types of bias can be straightforwardly expressed through the uttered proposition (cf. Mameni 2010), Wh-questions (WhQs) do not provide such a propositional object. To capture this difference, I propose *Answerhood* as the relevant notation that provides the necessary object source for *mage* (inspired by Theiler 2021). The proposal establishes the felicity conditions and the meaning of *mage* in relation to the (contextually) restricted answerhood in both polar and constituent questions.

1 Introduction

Discourse particles are useful tools for organizing conversations by fitting an utterance into the context. The small words (usually) do not contribute to the core propositional content but convey expressive meaning. They indicate information that would otherwise need to be described by the speaker or inferred by the addressee. Therefore, many studies investigate the intended meaning expressed by these particles, as well as the felicity conditions that capture the necessary properties of the discourse or the interlocutors.

Zimmermann (2011) introduces three semantic core functions for discourse particles (in German): **(i)** marking the expression as part of the Common Ground (e.g., *ja*), **(ii)** indicating that the expression is not activated with one of the discourse participants (e.g., *doch*), and **(iii)** weakening the commitment to the expression (e.g., *wohl*). More recently, Theiler (2021) provides examples of the particle *denn* being felicitous in WhQs but not in PQs,

which could not be explained neither by the expressive meaning nor by the felicity conditions of *denn*. Theiler claims that for certain particles, such as *denn*, we also need to consider *which notion of semantic content* are linked to them. She argues that while discourse particles are usually relevant to the informativity notion in declaratives (modeled as a proposition), this notion becomes more tricky in questions that seek information. Following Roelofsen and Farkas (2015), she suggests highlighting as the relevant notion in questions. In her proposal, particle *denn* indicates that learning the highlighted proposition is a necessary precondition for the speaker to proceed the discourse.

Particle *mage* in Farsi seems to require a similar consideration. It is worth noting that *mage* literally means 'unless' in non-interrogatives (see Section 5 for some examples), however, this paper focuses only on its discursive function in interrogatives. Like many other discourse particles that have double lives (e.g., *ja* and *denn* in German Lindner 1991, Theiler 2021), I consider particle *mage* in interrogatives as a homonymous with the conditional *mage* in non-interrogatives. I leave the discussion about its conditional *mage* for future studies.

A comparison between minimal pairs of polar and constituent questions with and without *mage* reveals that the particle carries additional information about both speaker's prior belief and contextual evidence in the given context. Example (1) presents a canonical polar question in Farsi (in the form of a rising declarative), simply asking whether or not Ali came to the party (*p*?). Example (2), which asks the same question, not only signals the speaker's prior belief/expectation against the uttered proposition *p*, *that Ali didn't come* (Mameni, 2010), but also requires contextual evidence for *p*.

(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?'

(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?'

On the other hand, examples (3) and (4) are minimal pairs of WhQs in Farsi, both seeking the list of people at the party. While in PQs, the meaning of *mage*, as the speaker's contrary expectation, has been interpreted in relation to the uttered proposition, it cannot be reconstructed in WhQs as in (4). To understand the exact function of *mage* in WhQs, further discourse analysis is required.

In the next section, I will present examples of *mage* in PQs, arguing that it necessarily requires contextual evidence. Then, we will see examples of *mage* in WhQs, and I will demonstrate that *mage* perform the same function in both types of questions (with respect to their alternative set of answers). In Section 3, I propose a unified analysis based on the *answerhood* notation for the meaning of the discourse particle *mage* in both polar and constituent questions. Section 4 introduces further issues about *mage*. We will have a look at the previous studies about *mage* in Section 5. Finally, the conclusion will be presented in Section 6.

2 The Data

A large and growing body of literature has investigated the questions that require *original bias* (OB) as speaker's prior (epistemic) belief (Ladd 1981, Romero and Han 2004), or *contextual bias* (CB) as evidence mutually available to all participants in a conversation (Büring and Gunlogson 2000) or their combinations (Domaneschi et al. 2017).

Particle *mage*, which can appear in both positive and negative polar questions, expresses speaker's prior belief (OB) contrary to the uttered proposition in the question (cf. *really*-questions in Romero and Han 2004). In positive polar questions, such as in (5), the speaker has the prior belief that Ali didn't come to the party, while in negative polar questions like (6), it signals the reverse belief 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 implication of the speaker's belief, Mameni (2010) shows that *mage* is felicitous in contexts that carry the speaker's prior expectation. Thus, since example (7) implicates that the speaker didn't expect Ali went to the party, it is truly 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
    'Did Ali come to the party?'

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

    # Context 1.1: ...A doesn't think that Ali went to the party.

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

Although the OB is implemented in the continuation as in Context 1.1, it is still infelicitous (#). In other words, the suggested implicature (of the speaker's belief) is not enough to predict the infelicity of Context 1.1. When Context 1 is continued as in Context 1.2, it provides the proper setting (✓) for example (7). Therefore, the felicitous context for *mage* requires both CB and OB.

Furthermore, particle *mage* can be used in different WhQs as in examples (8)-(11) (the negative forms are omitted for brevity).

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

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

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

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

Let's focus on the first example with *ki* 'who' and find a felicitous context. In the given context in (12), *mage* indicates that the speaker did not expect any celebrities to be at the party and is now inquiring about which celebrities were there. That implies that although question (12) does not explicitly state a specific proposition as the speaker's belief, the context suggests that the speaker held a contrary belief regarding the restriction of the guests who were celebrities over all of the guests who went to the party.

(12) **Context:** A calls B to know about the guests who went to the party last night. B says that it was fun to see some celebrities there. A didn't expect that there were any celebrities at the party.

> A: mage ki-â umadan?
> MAGE who-PL came
> 'MAGE who did come?'

To figure out the meaning of *mage* in WhQs, we need to investigate the domain of the Wh-phrase, which is somehow restricted by *mage*. Assume that we have the following list of professors in context (13): {Valeria, Wolfgang, Xavier, Yara, and Zachary}, where only {Yara and Zachary} are the famous ones. Semantically, the same question *Who did you invite?* is asked in (A1) and (A2). Considering the context, both answers in (B1) and (B2) are acceptable in response to (A1), albeit with different preference order. However, only (B2) is the felicitous answer to (A2).

In other words, the speaker in (A1) would be looking for either all the invited professors or just the famous ones. Therefore, both (B1) and (B2) are felicitous responses, respectively. It is worth noting that prosody, such as an enthusiastic intonation, and/or expressives like *awesome*, could help guide the interpretation towards the contextually restricted set of famous professors rather than all guests. For instance, if speaker A expresses *âlie!* 'Awesome!' at the beginning of the question in (A1) and/or asks the question with an enthusiastic intonation, then (B2) is more likely to be the answer rather than (B1).

(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?
> awesome 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 Valeria, Wolfgang, Xavier, Yara and Zachary

> B2: I invited Yara and Zachary

The question in (A2) implies that the speaker didn't expect any famous professors and further restricts the question to only the famous ones. Hence, if B starts listing all the invited professors as in (B1), speaker A would complain and explicitly mention that she meant which famous professors. Consequently, only (B2) is the appropriate answer to question (A2). It is important to note that any expressive term like *awesome* or prosody, whether usual or enthusiastic intonation, does not affect the acceptability of the answers to (A2). It is worth emphasizing that while both answers are somewhat acceptable in response to (A1), in the case of (A2), it is not a matter of answer preference but rather a matter of felicity.

Overall, the mandatory presence of contextual evidence in *mage* questions introduces a certain semantic object, which then becomes available as an anaphoric reference. The context restricts the question under discussion by narrowing down the alternative set of answers. More specifically, in *mage*-PQs, the uttered proposition in the question indicates the restriction over the contextual evidence. Similarly, the evidence in *mage*-WhQs obligatorily restricts the alternative set of answers to a subset list. In both types of questions, *mage* refers to the restricted set object, indicating that the speaker did not expect such a restriction. In the next section, I will propose an account based on the answerhood of the questions.

3 Proposal

The discursive function of *mage* in both polar and constituent questions can be formulated based on

the *Answerhood* notation (instead of the uttered proposition in *mage*-PQs). According to the literature, the denotation of a question is a set of propositions that correspond to the possible answers (Hamblin 1973, Karttunen 1977). In the case of polar questions (PQs) (ϕ?), the denotation returns a binary set $\{\phi, \neg\phi\}$, including the positive and negative answers. On the other hand, for WhQs (wh_x P?), the denotation may generate multiple members $\{P(x)|x \in D_e\}$, where each member represents a possible answer to the question.

The alternative set of answers can be contextually restricted, meaning that the restricted set is a subset of all possible alternatives (cf. contextual variables in Martinez 2003). These (evidential) restrictions, particularly in WhQs, introduce specific semantic objects that can be referred to anaphorically using *mage* (cf. Theiler 2021). In this context, the restriction generates a proper subset from the alternative set. Based on this understanding, the denotation of *mage* can be formulated as follow:

(14) $[\![mage\ \phi?]\!] = [\![\phi?]\!]$, provided that there is a proper subset Q' of $[\![\phi?]\!]$ such that for all q in Q':
- q is supported by the contextual evidence, and
- the speaker did not expect q.

Following (14), the contextual evidence captures the discourse anaphoricity of *mage* to the subset answerhood, while the particle expresses that the speaker didn't expect such a restriction to hold. Now, let's go through the examples and see if the account can explain the data.

Starting with polar questions as in (7), which is repeated here in (15), the denotation of the question is the alternative set of answers, as shown in (a). The context implies *that Ali came*, as in (b). Regarding the (semantic) alternative set in (a) and the (contextually) restricted set in (b), the required proper subset condition is satisfied in (c) and (d), where *mage* indicates that the speaker didn't expect the restriction to hold.

(15) MAGE did Ali come?

a. $[\![mage\ did\ Ali\ come?]\!]=\{come(a), \neg come(a)\}$

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

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

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

Moving on to WhQs as in example (13), repeated here in (16), the non-restricted set of alternatives results in a list of all invited professors, as shown in (a). However, the context suggests that there is a restricted list of famous invited professors, which narrows down the answerhood to a subset list, as illustrated in (b). In such cases, *mage* can felicitously appear since the subset condition is supported by the context in (c), and the particle signals that the speaker did not expect the restriction.

(16) MAGE who did you invite?

a. $[\![mage\ who\ did\ you\ invite]\!] =$ $\{invited(x) \mid Professor(x)\}$

b. Contextual Evidence for $Y = \{invited(y) \mid Professor(y) \wedge famous(y)\}$

c. Taking X the set in (a), $Y \subset X$

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

In summary, *mage* is felicitous in both polar questions with a binary set of alternatives, as well as in WhQs with a multiple member set, when the context indicates a restriction for a proper subset of the possible answers. In PQs, the evidence signals a single proposition, while in WhQs, it can result in a subset of multiple members. The contextual evidence provides the subset answerhood object, and particle *mage* implies that the speaker did not expect such restrictions to hold.

Lastly, it is worth noting that the proposal predicts that *mage* is not felicitous in alternative questions (AltQs) like those in (17) and (18).

(17) # mage   Ali mehmuni umad ya na?
        MAGE Ali party   came or no

(18) # mage   Ali mehmuni umad ya na-yumad?
        MAGE Ali party   came or NEG-came

$\approx$ 'Did Ali come to the party or not?'

AltQs, as unbiased questions, express a symmetric interest of the speaker in either of the alternatives offered disjunctively, for example, *Do you come or not?* (Bolinger 1978, Biezma 2009). Therefore, they are not felicitous in settings where either the speaker or the context indicates a bias towards a proposition rather than its alternative.

Roughly speaking, the intended meaning of examples (17) and (18), presented in (19), is the set of answers similar to PQs, as shown in (a). While

the question without *mage* is felicitous in neutral contexts (b), we have no subset object as in (c), and the contextual support condition fails. Furthermore, in AltQs, the speaker is open to either of the answers, i.e., she has no idea whether or not Ali came (d). Thus, the speaker's prior expectation of *mage* contradicts the felicitous context for AltQs. In other words, none of the bias conditions of *mage* would be met in contexts that are felicitous for AltQs.

(19)   # MAGE did Ali come or not?

a. ⟦mage did Ali come or not⟧ =
   {*come(a)*, ¬*come(a)*}

b. No contextual evidence is allowed in AltQs.

c. There is no subset object.

d. There is no speaker's prior expectation.

4 Further Issues

It is worth mentioning two outstanding points about *mage*. First, while I have characterized *mage* as anaphoric to the contextual evidence, it can also be used deictically and pick up non-linguistic contextual information as its antecedent. That is, the variable that shrinks the alternative set could be implemented by either being anaphoric to a piece of contextual evidence or deictic to extralinguistic information. The speaker can felicitously use *mage* if she can reasonably assume that the addressee can identify the intended referent. Otherwise, the use of *mage* is infelicitous. For instance, in example (20), the information that they might have an important guest is perceived through extralinguistic evidence, i.e. A and B know that they only clean the house when they have important guests.

(20)   **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.

Thus, I follow the intentional view, on which reference resolution of the restriction is a prag-

matic process that succeeds if the addressee can correctly recognize speaker's referential intention.

Second, the negative expectation in *mage* implicature doesn't need a strong belief/expectation. Regarding the 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 in which the speaker is opinionated about the complement proposition. While it feels weaker in the matrix clause, e.g. *Sara didn't expect that Ali comes*, in the sense that the speaker could be unopinionated and the complement clause was not simply in her (active) mental state. In *mage*-Qs, it is possible that either the speaker has some opinion about the restriction or she did not expect the restriction simply because it was not in her mental state.

5 Previous Accounts

Surprisingly, there is little published research on *mage*. Here, I will review Mameni (2010), who introduces *mage* as a genuine interrogative morpheme, similar to *âyâ* 'whether', which only differs in the not-at-issue content. The claim for a genuine interrogative function brings up discussions about *mage* in non-interrogatives and the types of sentences in Farsi.

Let's start with *mage* in non-interrogatives as a conditional operator. *mage* morphologically means 'not if', consisting of *ma-* as an allophone of the negative prefix *na-* and the conditional operator *age* 'if' in Farsi. Hence, it is close enough to translate it as 'unless' in English. Examples (21) and (22) are minimal pairs with the same truth-value meaning: ¬Study(*ali*) → Fail(*ali*).

(21)   age Ali dars   na-xune, miofte.
       if Ali lesson NEG-read fails

'If Ali doesn't study, he fails.'

(22)   Ali miofte, mage dars   bexune.
       Ali fails   unless lesson read

'Ali fails, unless he studies.'

The difference between the examples above is that (22) has an exceptive reading (von Fintel 1992). Roughly interpreting, it indicates '*Except if Ali studies, he doesn't fail*'. In this paper, I focused only on the role of *mage* in interrogatives. Regarding the distinct function and (surface) forms of *mage* in non-interrogatives versus interrogatives, I proposed its second role as a discourse particle.

However, I would not be surprised if we can extend the account to cover both interrogative and non-interrogative conditionals.[1]

Mameni (2010) was aware that the non-interrogative use of *mage* could be an objection against his claim for *mage* as a genuine question morpheme. Although I consider it to be a significant objection, the author briefly addresses it in a footnote by suggesting that if we assume question particles to be morphemes that operate over a proposition and result in multiple possibilities, the objection may not hold (cf. *inquisitive* proposition in Groenendijk and Roelofsen 2009).

Mameni argues that conditionals like (23) (adopted from Mameni 2010:p. 13) proposes two possibilities: the one in which it rains and the one in which it doesn't rain. Thus, truth-conditionally, the sentence denotes both possibilities, including 'Milad comes if it doesn't rain' and 'Milad doesn't come if it rains'.

(23) Milad miad, mage (inke) bârun biâd
      Milad comes !Q   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 questions, both of which introduce the set of alternatives/partitions.

The discussion about conditionals and and their discourse commitments is beyond the scope of this study. However, in (23), the speaker committs to the consequent *that Milad will come* under the specific circumstance *that it doesn't rain*. That is, if it doesn't rain and Milad doesn't come, he has to retract his commitment. Neither Mameni nor I fully consider the non-interrogative use of *mage* in our studies. However, he underestimates such a role without delving into its properties, and I consider it to be polysemous. While I leave the study of conditionals for future research, I argue that it is a crucial objection for claiming *mage* is *genuinely* a question morpheme.

Let's move on to *mage* in interrogatives. Farsi is an SOV language in which falling (↓) and rising (↑) intonations are required for declarative and interrogative sentences, respectively. Examples (24) and (25) are minimal pairs, where the former is a declarative (assertion) sentence, and the latter is an interrogative (question).

(24) Ali mehmuni miyâd. ↓
      Ali party   comes

      'Ali comes to the party.'

(25) 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, and he argues that the default reading of non-morpheme questions is the one with *âyâ*. Thus, (25) has the same meaning as (26).[2] I follow his coding for *Q* and *!Q* as the question operators for *âyâ* and *mage*, respectively.

(26) âyâ Ali mehmuni miyâd?
      Q   Ali party   comes

(27) mage Ali mehmuni miyâd?
      !Q   Ali party   comes

      ≈'Does Ali come to the party?'

Mameni proposes that both examples (26) and (27), similar to (25), ask whether or not Ali comes to the party, while they express different not-at-issue contents. *âyâ* in (26) expresses the speaker's ignorance about the answer, while *mage* in (27) signals that the speaker has a (tentative) commitment against the uttered proposition.

Now, let's delve into his argument for proposing *mage* as a genuine question operator. Mameni examines the environments that only select questions and preclude other types of sentences like assertions and commands. He uses the "let me ask you a question" test (Gunlogson 2001) to identify

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[1]There are some syntactic and semantic limitations between *age* and *mage*. For instance, **(i)** sentence (21) can maintain the conditional reading by the use of intonation without *age*, while this is not possible for *mage*, **(ii)** the order of the antecedent and consequent clauses generally does not affect *age*-sentences, but it affects the scope of negation in *mage*-sentences, **(iii)** there are constraints on indicative and subjunctive clauses with *mage*. A comprehensive study is required to capture all differences before arguing for any unified analysis of *mage* in both non-interrogatives and interrogatives.

[2]Although Mameni (2010) didn't mention it, (25) and (26) greatly differ in style. That is, *âyâ*-question is very formal and it is often used in written forms, while the rising-question is the canonical form used in usual/colloquial settings. As a Farsi speaker, I hardly remember if I have ever used *âyâ*, even in formal contexts. Furthermore, following his claim for the default reading of (rising) non-morpheme questions with *âyâ*-operator, the ignorant implicature of *âyâ* in (26) is expressed in (25) as well, which I am not sure about. The discussion about the difference between rising polar questions and *âyâ* questions is beyond the scope of this paper.

the questions from other types. Example (28) is adopted from Mameni (2010): p. 14.

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

   Let me ask you a question,...

   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 in (c) and the imperative in (d) compared to (a) and (b), Mameni concludes that *âyâ* and *mage* are genuine interrogative morphemes. He did not provide further explanation or argument for this (crucial) claim. He only challenges the critics, stating that if *mage* is not a question morpheme, it is almost impossible to explain why declarative sentences with *mage* are necessarily interpreted as questions. Notice that Mameni provides sentences with *mage* in falling intonation and claims that such sentences have a question reading. Overall, the argument presented by the author for *mage* as a question morpheme is based on its presence in interrogatives, and in order to support this argument, he stipulates conditional sentences as inquisitive.

I start with his examples of questions with falling intonation. In Farsi, rising intonation is necessary for polar questions, regardless of the presence of a question marker such as *âyâ* or *mage*. None of his examples with falling intonation on *mage*-questions were considered felicitous by my native speaker informants, including the author (some informants interpreted them as conditionals, with an elided antecedent).

Furthermore, while multiple Wh-words can form a single WhQ as in (29), using a double polar question marker shouldn't be felicitous, as claimed by Mameni in examples (30)-(31) (adopted from Mameni 2010: p. 12).

(29) ki či xarid?
   who what bought

   'Who bought what?'

(30) ??âyâ mage Milad raft?
   Q !Q Milad left

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

Mameni footnoted that the judgments were inaccurate since many speakers reject (31), but find (30) possible. The author suggests two hatches for the judgment variation.[3] He, however, rejects these hatches as they could not explain why the acceptability of (30) is degraded, in addition to why the movement of *mage* is restricted when it is preceded by *âyâ*. Therefore, he considers the sentences unacceptable and claims that the two morphemes cannot co-occur.

I share the intuition with the informants in which (30) sounds better than (31). What is irritating and degrades the acceptability of the combination of *âyâ* and *mage* is more about their style difference. That is, while *âyâ* is used in very formal and literary settings, *mage* is a colloquial particle. A native speaker might find the examples better in a context where the speaker should be polite and formal, but also wants to be friendly and informal. In such cases, it is widely common for the speaker to use elements from different styles to express both formal politeness (e.g., *âyâ*) and informal friendliness (e.g., *mage*). It seems weird but is practically common.

For instance, speaking with grandparents, on one hand, the grandchild wants to be polite regarding the age difference. On the other hand, she has a friendly relationship with her grandparents that allows her to speak in a friendly/informal style. In such cases, as in (32), the grandchild sometimes uses the pronoun *šomâ* plural PL-you (instead of *to* singular SG-you), but she conjugates the verb in singular. Syntactically, the structure is ungrammatical, but pragmatically it is commonly used.

(32) šomâ mehmuni miya-i?
   you-PL party comes-SG

   'Do you come to the party?'

In the context of (33), we can also see that the mother uses *šomâ* PL-you to treat her kid po-

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[3](i) He said that regarding the fact that *mage* is free to occur sentence-medially and sentence-finally, he assumes that if *mage* precedes *âyâ*, it cannot move. Thus, (31) is ungrammatical according to the informants compared to the better form in (30). (ii) It could be the case that since the meaning of *âyâ* questions is distinct from the meaning of *mage*, in marginal cases like (30), the question is interpreted as *mage*-meaning. This is possible by hypothesising that there is a covert *âyâ* morpheme in every *mage* question.

litely, while she conjugates the verbs in singular, as they have an informal/friendly mother-child relationship. Now, using formal *âyâ* and informal *mage* sounds reasonable. While the order (*âyâ mage*) and (*mage âyâ*) don't matter here, the former is generally preferred because the default position of *âyâ* is sentence-initial.

(33) **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 that the kid starts eating the fourth cookie...

> A: âyâ mage   man be šomâ   na-goftam
> Q   MAGE I   to you-PL NEG-tell
> faqat dota širini   mitun-i boxor-i?
> only two cookie can-SG eat-SG
>
> 'Didn't I tell you that you can only have two cookies?'

If *mage* is genuinely a question morpheme, its co-occurrence with *âyâ* shouldn't be possible, specifically because they express implicatures that conflict with each other. Finally, while polar question operators like *âyâ* cannot occur with other Wh-words as in (34), *mage* can be easily used in WhQs as in (35).

(34) # âyâ ki   miad?
      Q   who comes

(35) mage ki   miad?
      MAGE who comes

      'MAGE who does come?'

Note that Mameni did not work on WhQs, and he left it for future studies to extend his account to WhQs. I am not sure what exactly a question might ask, carrying both polar and constituent question operators. Thus, taking *mage* as a question morpheme could not explain the data in (35).

6 Conclusion

In this paper, I investigated the discursive function of particle *mage* in interrogatives. While the literature reported that *mage* in polar questions, [*mage* ϕ?], implicates speaker's prior belief against the uttered proposition ϕ, I presented that the felicitous context for the particle requires contextual evidence towards ϕ. I then extended the

analysis to *mage* in WhQs, where the required contextual evidence restricts the alternative set of answers. Therefore, I proposed the meaning and felicity condition of particle *mage* based on the *answerhood* notation in interrogatives.

The proposal for the role of two types of biases, including speaker's bias and contextual bias, in *mage*-questions could explain the data in both polar and constituent questions. Furthermore, it provides a natural explanation for the unacceptability of *mage* in alternative questions, as AltQs cannot be used in biased contexts. While the literal meaning of *mage* in conditionals is far-fetched from its bias-sensitive function in interrogatives, I leave the discussion about *mage* in non-interrogatives for future studies.

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