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# Scope ambiguities in future questions: reflection and *queclamative* with Italian MICA<sup>1</sup>

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**Abstract.** The paper studies the interpretation of Italian future questions with and without MICA. While bare future questions are reflective and enhance uncertainty, MICA future questions reveal bias, if not mirativity, and are exclamative in nature. We argue that these differences are grounded in a difference in scope. When FUT scopes over QUES, the question becomes reflective and enhances un-answerability. When QUES embeds the modal FUT the resulting interpretation is ill-formed. MICA offers the content needed to repair the question, contributing an alternative. This alternative has an expressive status whose content is adjoined by expressive application, and is thereby highlighted, with the enhancement of bias. Our paper offers three main insights: (i), modals, like attitudes, can embed sets of propositions. (ii) Expressive content can be adjoined to questions, creating an exclamative biased questions, which we call *queclamative*. (iii) Italian MICA belongs to the broad class of mirative evidentials sensitive to defeasible generalization rather than to the one of common ground management devices.

**Keywords:** future, modality, questions, MICA, exclamation, surprise, concessivity

## 1. Introduction

This paper studies the interactions between modality and speech acts focusing on Italian modal future and questions.

The emphasis will be on ‘bare’ future questions:

- (1) Quanti anni avrai (mai)?  
How-many year have.FUT.2SG (ever)?  
How old might you ever be ?

and on MICA future (exclamative)-questions.

- (2) Non avrai mica fame ?!  
Not have.FUT.2SG MICA hunger ?!  
You are not hungry, don’t you ?!

The paper makes two main points.

First, we argue that (1) is a reflective question, akin to conjectural questions cross-linguistically (see eg. (Eckardt and Beltrama, 2019; Matthewson, 2010a)), and we newly derive the reflection

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from the interpretation of FUT over QUES, thus arguing that the modal can scope not only over propositions, but over sets of propositions.<sup>2</sup>

Second, we argue that MICA is a disconfirmational particle that denies a defeasible generalizations based on evidence available in the context of utterance. Its contribution is akin to mirative evidentials cross-linguistically (Aikhenvald, 2004). Its role becomes crucial in the specific configuration where QUES scopes over FUT. Echoing the idea that questions denote three possible spaces corresponding to possible answers (yes, no and maybe) (see discussion in Ciardelli et al. (2009); Enguehard (2021) and, for the initial insights, Mascarenhas (2009)), we argue that MICA repairs the question produced by QUES > FUT by adding an alternative by expressive application à la Potts (2007). We also argue that this alternative is highlighted, explaining the exclamative flavor of the question (hence the term *queclamative*, reminiscent of Sadock (1971) ‘queclarative’ for inquisitive assertions<sup>3</sup>).

An attempt is made to set a parallelism between MICA questions and concessive questions cross-linguistically.

The paper is structured as follows. Section 2 is dedicated to future reflective questions. Section 3 is dedicated to MICA and MICA future questions. Section 4 concludes.

## 2. Modality of the future and questions: FUT > QUES and reflection

### 2.1. The modality of future

It has now been robustly and cross-linguistically established that, semantically, the future tense is not the dual of the past tense (see among many others, Enç (1987), Bertinetto (1979), Copley (2009), Mari (2009), De Saussure and Morency (2012), Giannakidou and Mari (2013b, 2018a), Frana and Menéndez-Benito (2019), Ippolito and Farkas (2019), Escandell-Vidal (2021) among many others; *pace* Prior (1962), Kissine (2008).) Unlike the past, the future is open, and, even if we were to consider the future as metaphysically settled, we cannot deny that we cannot know the future. A sentence in the future tense is perceived as a prediction that could turn out to be true or false (Huddleston and Pullum (2005), MacFarlane (2003)).

- (3) Domani pioverà. (Italian)  
 Tomorrow rain.FUT.3sg  
 It will rain tomorrow.

For Italian future, this epistemic openness, together with the fact that the future can have present and past orientation in a way akin to *dovere* (*must*) and *potere* (*might*), has lead several theoreticians to conceive of the future as an epistemic modal (Bertinetto (1979), Mari (2009), Pietrandrea (2005), Giannakidou and Mari (2013a, 2018a)).

- (4) Flavio sarà nella sua camera.  
 Flavio be.FUT.3SG in-the his room  
 Flavio must/might be in his room.’

- (5) Flavio deve essere nella sua camera.  
 Flavio must be in-the his room

<sup>2</sup>See Roelofsen and Uegaki (2020) for a similar claim for Japanese *daroo*-.

<sup>3</sup>See Giannakidou (2013) and references therein.

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Flavio might be in his room.

- (6) Flavio può essere nella sua camera.  
Flavio might be in-the his room  
Flavio might be in his room.

As observed since Bertinetto (1979), Italian future can combine with weak or strong adverbs and is a very flexible modal, with some amount of disagreement as to the force of future, underspecified for some (e.g. Pietrandrea, (*ibid.*), Baranzini and Mari (2019); and universal for others (Giannakidou and Mari, 2018a)).

- (7) a. Sarà sicuramente a casa.  
Be.FUT certainly at home.  
He must certainly be home.  
b. Sarà forse a casa.  
Be.FUT maybe at home.  
He might maybe be home.

This flexibility reflects the ability of future to combine with evidence of different types, which range from inferential to absence of evidence. The strengths of epistemic commitment that modals convey are indeed rooted in the evidence upon which they rely (Karttunen, 1972). Giannakidou and Mari (2016) propose a ‘scale of epistemic commitment’, according to which by asserting  $p$  the speaker is ‘fully committed to  $p$ ’<sup>4</sup>; with MUST  $p$  the speaker is partially committed to  $p$  (Giannakidou and Mari, 2021b). With MIGHT  $p$  the speaker is in a state of hesitation.

This scale of epistemic commitment is anchored to a scale of information reliability. The assertion of  $p$  requires the speaker to have reliable information; MUST  $p$  relies on partial information (Giannakidou and Mari, 2016); MIGHT  $p$  may rely on unreliable information. FUT  $p$  can use no evidence at all as the use of ‘Bo’ reveals (see discussion in Mari (2010, 2021); Ippolito and Farkas (2019); Giannakidou and Mari (2023a)).

- (8) Where is Gianni ?  
a. Bo’. Sarà a casa !  
bah! Be.FUT.3SG at home !  
He might be home!  
b. Bo’. #Deve essere a casa !  
bah! Must be at home !  
He must be home!  
c. Bo’. #Può essere a casa !  
bah! Might be at home !  
He might be home!

This explains why it is weird for a doctor to use a sentence in the future.<sup>5</sup> Context: the doctor has visited John and utters:

<sup>4</sup>Or at least takes  $p$  on his own account by pretending to be fully committed to his truth; except in the case of lies

<sup>5</sup>See Ippolito and Farkas (2019) for discussion of a similar example but a different, subjectivity-based explanation, which we show to be incorrect later in this section.

- (9) Sarà il Covid.  
Be.FUT.3sg the Covid.  
It will be Covid.

As Giannakidou and Mari (2016) note, a MUST sentence is also weird in the context of a medical visit, as the doctor is revealing a certain amount of lack of knowledge. If MUST is felt as slightly less inappropriate with respect to a medical statement in the future tense (see e.g. Ippolito and Farkas (2019)) it is because it rules out cases in which the attitude holder (here, the doctor) relies on no evidence whatsoever. Context: the doctor has visited John and utters.

- (10) ??Deve essere il Covid.  
Must be the Covid.  
It will be Covid.

Interestingly, the fact that FUT can be used without any clue, whereas MUST uses evidence,<sup>6</sup> explains the most striking difference between the two: FUT is used to project a world that does not yet exist (temporal use of the future), MUST mandatorily uses clues and thus requires that facts of the matter are available. It cannot therefore be future oriented and epistemic at once.

- (11) John must come with us. (#Epistemic)

Note, however, that it would be erroneous to state that Italian future associates with subjectivity as Mari (2010) and Ippolito and Farkas (2019) claim. The core idea that Mari (*ibid.*, p. 1-8) advanced in this early work is that the Italian future uses a ‘subjective stereotypicality’ set of preferences, and ranks ‘according to what it is more likely for the speaker.’ She also establishes a relation between subjectivity as credence and (lack of) reliability. In their recent paper Ippolito and Farkas (2019) propose a similar idea, in their terms: ‘subjective likelihood’.

While appealing, this line of analysis is not on the right track. Italian future statements can also rely on exogenous evidence, as in (12). In the context where the lights at John’s house are on:

- (12) Gianni sarà a casa.  
John be.FUT at home.  
Gianni must/might be home.

To conclude: MUST requires clues and indices in the context of evaluation, whereas FUT does not. The future, however, is not a subjective evidential *simpliciter*. It can be compatible with clues and stereotypicality conditions (Mari, 2009; Giannakidou and Mari, 2016, 2018b). This renders the future a flexible modal, which, we consider a non-biased necessity modal by default, which can be weakened or strengthened (Mari, 2021; Giannakidou and Mari, 2023a).

## 2.2. On the interrogative flip

If Italian future is sensitive to evidence, the question arises whether the future is an evidential. We refer to Mari (2021) for extended discussion of very fine-grained arguments. We specifically focus here on the interrogative flip, as an argument for the evidentiality of Italian future in the context of questions, which is relevant here.

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<sup>6</sup>See also Dendale (2001) for French.

While most of the existing theories are based on the idea that the future in Italian features an evidential component (Mari, 2009, 2010; Squartini, 2010; Frana and Menéndez-Benito, 2019; Eckardt and Beltrama, 2019; Ippolito and Farkas, 2019), authors diverge as of whether evidentiality is at issue (Mari, 2010; Squartini, 2010; Frana and Menéndez-Benito, 2019; Eckardt and Beltrama, 2019) or non-at-issue (Mari, 2009; Giannakidou and Mari, 2016, 2018b). In the latter case, FUT has been claimed to be an epistemic modal with an evidential presupposition.

These analytical options have been considered crucial when it comes to the behavior of future in questions.

(13) Dove sarà Anna? Non la vedo.  
Where. be.FUT.3sg Ann. Not her see  
Where might Ann be? I do not see her.

(14) Anna sarà a casa, ora ?  
Ann be.FUT.3sg at home, now  
Might Ann be at home now?

It has been claimed that Italian future questions flip and this has been considered as an argument for the at-issue evidentiality of the future (Frana and Menéndez-Benito, 2019; Ippolito and Farkas, 2019).

The interrogative flip is argued to be triggered by evidentials in biased questions (Bhadra (2020), Korotkova (2016), Murray (2016), a.o.), and is the phenomenon whereby the source of the evidence needed to answer the question is the addressee, unlike in assertives, whose source of evidence is the speaker.

The reasoning goes as follows: (i) a question containing an evidential expects that the hearer has the relevant type of evidence (interrogative flip e.g. Speas and Tenny (2003), Aikhenvald (2004), Murray (2016); San Roque et al. (2017), Bhadra (2020) a.o. ) (ii) the evidential future is an inferential (iii) the future question is well-formed only if the hearer does not have direct evidence to answer the question. This elegantly explains the infelicity of (15) as an information seeking question.

(15) #Quanti anni avrai ?  
How many years have.FUT.2sg  
How old might you be?

This claim deserves several comments.

First, we note that the same explanation applies for theories holding that the future is an epistemic modal with an evidential presupposition, as the infelicity of (15) as an information seeking question would be a case of presupposition failure.

Second, and more generally, it could be claimed that, after all, epistemic modals including might also trigger the interrogative flip as the infelicity of (16) as an information seeking questions reveals. In this case, the knowledge of the addressee would be at stake, and of course, the addressee has complete knowledge about their own age, contrary to what the presupposition of the modal might requires.

- (16) #Quanti anni puoi avere ?  
 How many years can.FUT.2sg have  
 How old might you be?

Finally, cross-linguistic analysis, has shown that evidentiality does not necessarily trigger the interrogative flip in questions. This effect is robustly documented across languages of very different families as illustrated in (17):

- (17) From (Littell et al., 2010), for Gitksan:  
 a. sdin=**ima**=hl xbiist.  
 be.heavy=infer=CND box  
 The box might be heavy.  
 b. nee=hl sdin=hl xbiist=a?  
 YNQ=CND be.heavy=CND box=INTERROG  
 Is the box heavy?  
 c. nee=**ima**=hl sdin=hl xbiist=a.  
 YNQ=infer=CND be.heavy=CND box=INTERROG  
 I wonder if the box is heavy.

To conclude: evidentiality is neither necessary nor sufficient to trigger the interrogative flip, and the interrogative flip is thus not an argument for evidentiality of the future.

### 2.3. Reflection with Italian future questions.

The infelicity of (15) and (16) only stands when these questions are interpreted as information seeking one. Mari (2021) shows that, in Italian, existential epistemic modal questions (18) – which include Italian future questions (19), (20) – are by default self-addressed (see for previous discussion Eckardt and Beltrama (2019)).

- (18) Dove possono essere i miei occhiali ?  
 where might be the my glasses  
 Where might my glasses be ?  
 (19) Dove saranno i miei occhiali ?  
 where be.FUT.3pl the my glasses  
 Where might my glasses be ?  
 (20) Sarà a casa ?  
 be.FUT.3sg at home ?  
 Might he be home ?

Such questions are akin to questions with *forse* which is the possibility adverb ‘maybe’ in Italian:

- (21) a. È a casa ?  
 Is at home ?  
 Is he at home ?  
 b. È forse a casa ?  
 Is maybe at home ?  
 Is he maybe at home ?

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Questions with possibility modals have been claimed to be weakened versions of the information seeking question, in the sense that they involve more uncertainty. Indeed, they can be continued by “Who knows?”, a continuation that is odd in regular information seeking questions.

- (22) Sarà a casa ? Chi lo sa !  
be.FUT.3sg at home ? Who that knows !  
Might he be home ? Who knows !

The enhancing of uncertainty with existential modals is a wide-spread phenomenon cross-linguistically, observed for instance in Greek (23) (Giannakidou and Mari, 2023b), Korean (24) (Kang, 2016) and German (25) (Zimmermann, 2011):

- (23) Pjos (arage) na irthe sto party? Pjos kseri!  
Who arage-partcile SUBJ came.3SG to-the party - who knows  
Who might have come to the party? Who knows!

- (24) Con-i wusungca-i-nka?  
John.NOM winner-be-NKA  
Could John possibly be the winner?

- (25) Hat Hans wohl Maria eingeladen?  
has Hans prt Mary invited  
What do you reckon: Has Hans invited Mary?

These questions have been dubbed ‘conjunctural’ (Matthewson, 2010b; Eckardt and Beltrama, 2019), or ‘reflective’ (Giannakidou and Mari, 2023b). They are questions that the speaker poses to herself and that do not even require an answer.

### 2.4. Analysis

#### 2.4.1. Background analysis of Italian future

To delineate the analysis we will capitalize on the work of Giannakidou and Mari (2016, 2018b, 2021a, b),<sup>7</sup> recalling only the main building blocks. Our starting notion will be the one of the epistemic state of an individual anchor  $i$ , which, for Italian future, is always the speaker.

- (26) *Epistemic state of an individual anchor  $i$*   
An epistemic state  $M(i)$  is a set of worlds associated with an individual  $i$  representing worlds compatible with what  $i$  knows or believes in the context of utterance.

A nonveridical state conveys epistemic uncertainty if (and only if) it is partitioned into  $p$  and  $\neg p$  worlds.

- (27) *Nonveridical information state*  
An information state  $M(i)$  is nonveridical about  $p$  iff  $M(i)$  contains both  $p$  and  $\neg p$  worlds.

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<sup>7</sup>All the definitions in section 2.4.1 are from Giannakidou and Mari (2021b).



FUT use a primary epistemic modal base,  $M(i)$  encoding the assumption that lack of knowledge is due to partial or corrupted evidence, or even lack of evidence that leaves the speaker in uncertainty (Giannakidou and Mari, 2016).

$Ideal_{\mathcal{S}}$  delivers the worlds in the modal base in which all the propositions in  $\mathcal{S}$  are true.

$$(28) \quad Ideal_{\mathcal{S}} M(i) = \{w' \in M(i) : \forall q \in \mathcal{S} (w' \in q)\}$$

$\mathcal{S}$  is a set of heterogeneous propositions that correspond to common ground norms/personal but also personal convictions etc.  $Ideal_{\mathcal{S}}$  can encode  $i$ 's beliefs, but not necessarily only mere credences. One's beliefs can also rely on considerations of stereotypicality conditions or normalcy conditions. Note that  $Ideal_{\mathcal{S}}$  is a secondary modal base and does not provide ranking:  $Ideal_{\mathcal{S}}$  worlds are not ranked as higher than  $M(i)$  ones (Mari, 2021; Giannakidou and Mari, 2023a). With  $Ideal_{\mathcal{S}}$  in place, the non-final analysis for Italian future is as follows (see (Giannakidou and Mari, 2016, 2018b)).

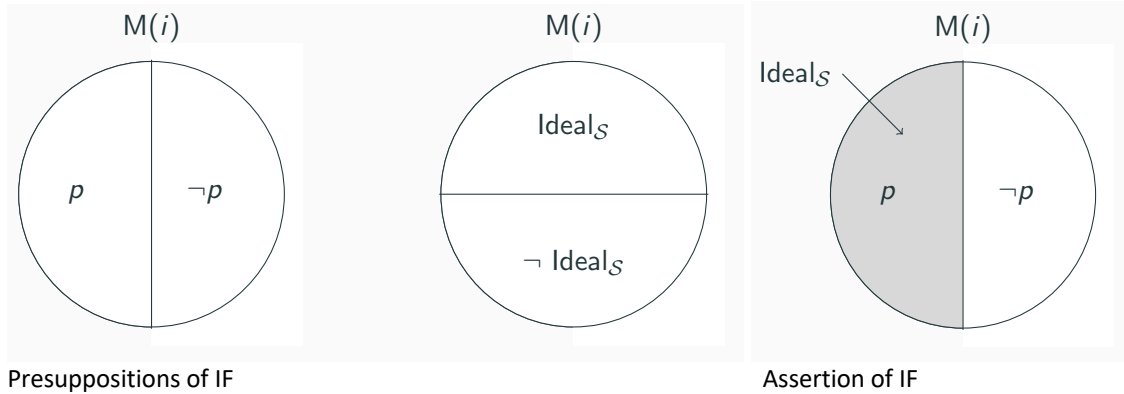
$$(29) \quad [[FUT (PRES ( p ))]]^{M, Ideal, i, \mathcal{S}} \text{ is defined only if (i) } M(i) \text{ is nonveridical and (ii) } M(i) \text{ is partitioned into } Ideal_{\mathcal{S}} \text{ and } \neg Ideal_{\mathcal{S}} \text{ worlds, and (iii) } i \text{ has potentially no clues.}$$

If defined,

$$[[FUT (PRES(p))]]^{M, Ideal, i, \mathcal{S}} = 1 \text{ iff } \forall w' \in Ideal_{\mathcal{S}} : p(w', t_u)$$

*Paraphrase:* (presupposition) The modal base  $M(i)$  is partitioned into  $p$  and  $\neg p$  worlds as well as into  $Ideal_{\mathcal{S}}$  and  $\neg Ideal_{\mathcal{S}}$  worlds.  $i$  has potentially no clues for  $p$ . (assertion). All  $Ideal$  worlds are  $p$  worlds.

The following picture summarizes our analysis of future as a non-veridical and unbiased universal epistemic modal. Note, indeed, that there is no notion of ordering at play, an issue discussed at length in Giannakidou and Mari (2023a).



#### 2.4.2. Italian future in question

In questions, Italian future enhances reflection. A reflective question does not require an answer and it is typically a question that the speaker poses to herself.

We propose that the modal FUT scopes over QUES and thus over a set of propositions rather than a proposition.

- (30)  $\llbracket \text{FUT}(\text{QUES}(p)) \rrbracket^{\mathcal{O}, M, i, \mathcal{S}}$  is defined only if:  
 $M(i)$  is nonveridical and is partitioned into  $\text{Ideal}_{\mathcal{S}}$  and  $\neg\text{Ideal}_{\mathcal{S}}$  worlds.  
 $\llbracket \text{FUT}(\text{QUES}(p)) \rrbracket^{\mathcal{O}, M, i, \mathcal{S}} = \forall w' \in \text{Ideal}_{\mathcal{S}} : p(w', t_u) \vee \neg p(w', t_u)$

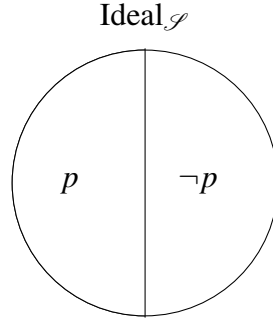


Figure 1: FUT > QUES

The scope of the modal over the QUES operator accounts for the observations. First, QUES does not act as a speech act, and the question is not addressed. Second, reflection is derived insofar as the inner mental state is represented as partitioned. Third, the question is unaddressed: the question is relativized to a state of mind. Finally, the question is considered as potentially unanswerable by the speaker: adding information through  $\text{Ideal}_{\mathcal{S}}$  does not solve the issue.

### 3. MICA and MICA future questions

Future questions are one of the many contexts in which the Italian discourse particle (NON) MICA can be found.<sup>8</sup> In this context, MICA creates a biased question, and, more specifically, an exclamative question (as the punctuation highlights in the following attested example).

- (31) Oh, no! (Sara) non avrà mica detto ad Anna che ho un altro figlio da lei (Sara)?!?. Non può averlo fatto! Cielo, e se invece fosse così?<sup>9</sup>  
 Oh no ! Sara will have not told Anna that I have another son from her (Sara)?!?. She cannot have done it! God, what if instead she did it?

As the punctuation ‘?!?’ reveals, the MICA-question is imbued with surprise (also spelled out in the preceding ‘Oh, no!’), and it is loaded with a series of presuppositions that surface as expectations that have been referred to as ‘biases’ in the literature.<sup>10</sup> (i) the speaker believes that Sara would not be able to tell Anna that the speaker has another son from her (Sara). (This has been called the *speaker bias* and it is spelled out later in the discourse as ‘Non può averlo fatto!’ *She cannot have done it!*.) (ii) Second, the speaker might have evidence, in the context of utterance, that Sara has told Anna. This is the *evidence bias*. (iii) Third, the speaker expects a positive answer to the question (*answer bias*). Furthermore, the question is a true question<sup>11</sup> that reveals uncertainty and requires a clarification, as the follow up with ‘Cielo, e se invece fosse così?’ *God and what if it is indeed the case?* shows.

<sup>8</sup>We assume with much of the literature that NON MICA and MICA are in free distribution, a fact that will deserve further attention in future work and which is dialect dependent.

<sup>9</sup><https://www.wattpad.com/277641804-pensami-federico-rossi-20-vendetta-o-quasi>

<sup>10</sup>See, among many others Krifka (2015), Sudo (2013), Malamud and Stephenson (2015), AnderBois (2019), Buring and Gunlogson (2000), Larrivé and Mari (2022) a.o.

<sup>11</sup>*Pace Frana and Rawlins (2019).*

The ability of MICA to create bias and enhance surprise can be appreciated by comparing MICA future questions with future questions without MICA, which as we have claimed are anti-biased questions that enhance uncertainty.

The idea that MICA is presuppositional is not new and theoreticians disagree on whether MICA presupposes an expectation that  $p$  is true or an expectation that  $\neg p$  is true in the common ground. The debate is the one that we now present.

### 3.1. MICA: The debate

**First attempt: speaker bias towards  $p$**  According to Cinque (1991), MICA can deny a proposition that has never been expressed linguistically, but simply inferred or believed to be believed by the addressee. Cinque discusses the context in which the speaker S sees the addressee A pouring milk into a dish for S's cat. S infers that  $p$  (in this case: the milk is good for cats) is assumed by A.

- (32) Guarda che il latte non fa mica bene al gatto.  
look that the milk NEG does MICA good to-the cat  
Look, milk is NOT good for cats !

According to Cinque's analysis, NON introduces a regular negation and MICA adds a definedness condition: in the context  $c$ ,  $p$  is presupposed by some participant in the conversation.

**Second attempt: in questions, the speaker is biased towards  $\neg p$**  Frana and Rawlins (2019) provide new evidence against Cinque's analysis, and elaborate a scenario where Clara invites Miles for dinner and makes clear to him that she will prepare her best dishes. When he gets there, Miles barely touches any food. Clara asks him:

- (33) Non hai mica già mangiato?  
not have.PRES.2sg MICA already eaten?  
You haven't eaten, don't you ?

Clara expects that Miles has *not* eaten yet, she is biased towards  $\neg p$ , but has evidence (evidence bias) that  $p$  (Miles barely touches any food).

Frana and Rawlins (2019) maintain Cinque's generalization for assertions, but provide a different generalization for questions, overall proposing what follows:

- (34) Frana and Rawlins (2019) generalization.  
a. In **assertions**, MICA sentences are felicitous in contexts where  $p$  is assumed by some participant in the conversation (as in Cinque (1991)).  
b. **Questions** with MICA are felicitous if the speaker has prior bias (prior to the exchange) for  $\neg p$ .

We show that this generalization is not correct for questions, and that a unified account for both assertions and questions is possible.

**New observation: the valence of the speaker’s bias is not relevant** We observe that, even in questions,  $p$  can be expected to be part of the common ground (rather not  $\neg p$ ), as the following case, where  $p$  is expected to be true by the speaker, shows. The context is one in which I am eating a whole bag of chips and my friend asks me :

- (35) Scusa, non sei mica a dieta ?  
 Sorry, not are MICA on diet ?  
 Sorry to ask, aren’t you on a diet ?

The speaker expects  $p$  to be true (that I am on a diet) and has evidence for  $\neg p$  (that I am not on a diet as I am eating a whole bag of chips). We conclude that MICA is not sensitive to the valence of the speaker’s bias presupposition.

### 3.2. MICA: new proposal

We newly propose that MICA is anaphoric to rules and generalizations of the form (36), where  $E$  is a body of evidence (a set of propositions) available in the context of utterance  $c$ .

- (36)  $E$  then normally  $q$

(36) is a defeasible inference that can be based on stereotypes, norms, commonsense reasoning. It is enhanced by contextual information or general knowledge (see a.o. Dowty (1979); König (1986, 1991); Krifka et al. (1995); Mari et al. (2012); Mari (2014)). If we restate this rule in the framework that we have been designed, we obtain what follows:

- (37) MICA Non-at-issue.  
 $\forall w' \in Ideal_{\mathcal{I}} p(w')$

MICA states that a certain generalization does not hold and that the inference associated with the generic generalization should not go through, according to the speaker.

- (38) MICA At-issue.  
 $\forall w' \in Ideal_{\mathcal{I}} \neg p(w')$

Unfolding (35), the reasoning goes as follows. Let the  $Ideal_{\mathcal{I}}$  worlds be those worlds in which I am eating eating a lot and  $\neg p$  worlds, worlds in which I am not on a diet.

- (39) a.  $\forall w' \in Ideal_{\mathcal{I}} \neg p(w')$  *defeasible generalization*  
 b.  $\forall w' \in Ideal_{\mathcal{I}} p(w')$  *MICA content*  
 c.  $p$  and  $\neg p$  are valid alternatives in view of  $Ideal_{\mathcal{I}}$ . *question*

In creating a question that is grounded in  $Ideal_{\mathcal{I}}$ , the speaker is ready to endorse the contextual evidence, and nonetheless refuses to endorse  $\neg p$ . MICA turns out to be a disconfirmational particle, that rejects contextual evidence as valid (see also Aikhenvald (2004)).

Consider the scenario in which the addressee (A) is far away and the speaker (S) announces that the addressee’s sister will pick him up (Cinque (1991); Frana and Rawlins (2019)). In so doing the speaker seems to presuppose that the addressee’s sister can drive. The addressee clarifies that his sister is not able to drive.

- (40) S: Sei lontano. Ti viene a prendere tua sorella.  
 You are far away. Your sister is going to pick you up.

A: Non sà mica guidare.  
She is not MICA able to drive.

According to our account, what matters for MICA is that there is a contextually available generalization according to which if someone picks up a person who is far away, she will probably use the car. While endorsing the evidence, MICA asserts that all evidence worlds are also worlds in which  $\neg p$  is true.

### 3.3. MICA in future questions

To account for the effect of MICA in questions, we start with the interpretation of future questions, on the assumption that QUES is a speech act operator that scopes over FUT. QUES creates two alternatives. One in which all  $\text{Ideal}_{\mathcal{S}}$  are  $p$  worlds, and one in which only some of the  $\text{Ideal}_{\mathcal{S}}$  are  $p$  worlds.

- (41)  $\llbracket \text{QUES}(\text{FUT}(p)) \rrbracket^{\mathcal{C}, M, i, \mathcal{S}}$  is defined only if:  
 $M(i)$  is nonveridical and is partitioned into  $\text{Ideal}_{\mathcal{S}}$  and  $\neg \text{Ideal}_{\mathcal{S}}$  worlds.  
 $\llbracket \text{QUES}(\text{FUT}(p)) \rrbracket^{\mathcal{C}, M, i, \mathcal{S}} =$   
 $\{\{\forall w' \in \text{Ideal}_{\mathcal{S}} : p(w', t_u)\}, \{\neg \forall w' \in \text{Ideal}_{\mathcal{S}} : p(w', t_u)\}\}$

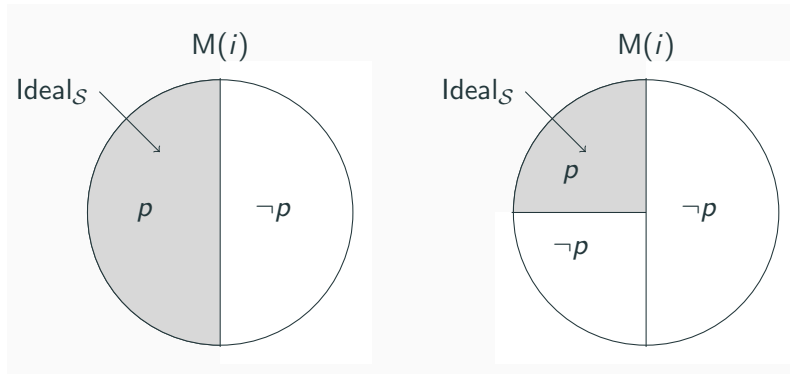


Figure 2: Non optimal question  $\text{QUES} > \text{FUT}$  – with uninterpreted MICA

This question is not ‘optimal’. Rephrasing it, it asks whether all worlds compatible with  $\text{Ideal}_{\mathcal{S}}$   $p$  is true or whether there are only some of the worlds in  $\text{Ideal}_{\mathcal{S}}$  in which  $p$  is true.

There are various reasons why this question is not well-formed, depending on the theory adopted. As per Hamblin (1958), Groenendijk and Stokhof (1982) and Mascarenhas (2009), questions denote sets of mutually disjoint alternatives. The alternatives pictured in Figure 2 are not disjoint.

According to a different view, any question opens up three options, which correspond to the possible answers *yes*, *no* and *I do not know* (Ciardelli et al., 2009; Enguehard, 2021).

Along these lines, we propose that MICA adds the alternative necessary to form a well-formed question, which we depict in Figure 3. The first alternative corresponds to the affirmative answer, the second alternative to the ‘I do not know’ answer, and the third alternative to the negative answer.

## Scope ambiguities in future questions: reflection and *queclamative* with Italian MICA

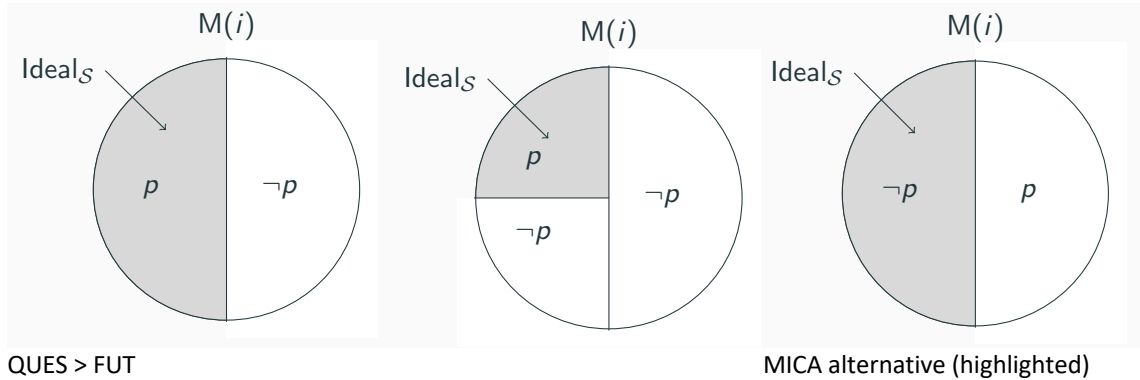


Figure 3: MICA future *queclamative*

We also propose that the alternative contributed by MICA is added to the set via Pott's expressive application and is expressive content Potts (2007).

$$(42) \quad \llbracket MICA \bullet QUES (FUT (p)) \rrbracket^{\mathcal{O}, M, i, \mathcal{S}} = \{\forall w' \in Ideal_{\mathcal{S}} : \neg p(w', t_u)\}, \{\{\forall w' \in Ideal_{\mathcal{S}} : p(w', t_u)\}, \{\neg \forall w' \in Ideal_{\mathcal{S}} : p(w', t_u)\}\}$$

The status of the MICA-alternative is peculiar with respect to the two other alternatives, with two main consequences. First, the expressive dimension explains the exclamative flavor of the question. Second the highly subjective status reveals the speaker commitment: the alternative is highlighted as the most prominent one, and the resulting question is biased.

Note that this addition is possible insofar as future and MICA are both sensitive to a body of information available in the context of utterance from which inferences are derived, and which, in our analysis, is encoded in  $Ideal_{\mathcal{S}}$ .

### 3.3.1. Further comments

Some comments are in order.

1. We would like to point to a constraint on the co-occurrence FUT in MICA in questions. Recall the contrast between the diet case and the Miles-is-not-eating case. In the diet case (45), the defeasible generalization undone by MICA leads to conclude that  $p$ . In Miles-is-not-eating case the defeasible generalization leads to conclude that  $\neg p$ . Note also the indicative present in (45), and the future tense in (44).

(43) Scusa, non sei mica a dieta? (= (35))  
 Sorry, not are MICA on diet ?  
 Sorry to ask, aren't you on a diet ?  
 Previous belief that  $p$  evidence that  $\neg p$

(44) Non avrai mica già mangiato? (= (33))  
 not have.FUT.2sg MICA already eaten?  
 You haven't eaten yet, don't you ?  
 Previous belief that  $\neg p$  evidence that  $p$

The future can only be used if the contextual evidence leads to the conclusion that *p*, in particular, it cannot be used in (45) under Scenario 1.

Scenario 1: The speaker has contextual evidence that the addressee is *not* on a diet and she is eating a whole bag of chips.

- (45) Scusa, non #sarai mica a dieta ?  
Sorry, not be.FUT.2SG MICA on diet ?  
Sorry to ask, aren't you on a diet ?

Consider Scenario 2. In this context, the future can be used.

Scenario 2: The speaker has evidence that the addressee *is* on a diet. There is a bag of chips on the table and the addressee refrains from eating them all.

- (46) Scusa, non sarai mica a dieta ?  
Sorry, not are MICA on diet ?  
Sorry to ask, aren't you on a diet ?

FUT and MICA can co-occur only in the cases where the evidence supports *p*. The indicative with MICA is admitted in both scenarios.

2. As we have shown, MICA acts as a disconfirmational evidential (Aikhenvald, 2004) that leads to consider the evidence as irrelevant, and this can explain two facts.

First, the *irrelevance* of the evidence might explain that the use of MICA can be extended to 'by any chance' questions:

- (47) Mica hai una penna per caso?  
MICA have.PRES.IND.2SG a pen by chance  
Do you have a pen, by any chance?

Second, we observe that MICA (future) questions can be cross-linguistically translated into concessive questions. This is the case in French, which resorts to the concessive *quand même* ('nonetheless').

The question arising in the Miles-is-not-eating scenario, where Susan is asking Miles whether she has already eaten (contrary to what she expects) is as follows:

- (48) Tu n'as quand même *pas* mangé ?  
you not-has nonetheless not eaten  
You haven't eaten, don't you ?

The question that my french addressee would formulate wondering whether I am really on a diet, seeing me eating a whole bag of chips will be as:

- (49) Tu es à la diète, quand même, n'est-ce pas ?  
You are at the diet, nonetheless, TAG ?  
You are on a diet, don't you ?

As well-known since König (1986), the concessive reasoning relies on rules and generalizations. The speaker acknowledges (and accepts) the premises, but refuses to draw the normal

conclusion that would follow from those premises.<sup>12</sup>

The concessive reasoning replicates the semantics of MICA, rendering the cross-linguistic comparison potentially fertile. Needless to add that this just opens a series of questions, including those pertaining to the role of negation (which is transparent in French (48)), which we have left unaddressed.

#### 4. Conclusion

This paper has studied the interpretation of Italian future questions with and without MICA. While bare future questions are reflective and enhance uncertainty, MICA future questions reveal bias, if not mirativity, and are exclamative in nature.

We have explained these differences by appealing to a difference in scope between FUT and QUES. When FUT scopes over question, the question becomes reflective and enhances unanswerability. When QUES scopes over FUT, MICA repairs the question, contributing an alternative with a special expressive status.

Our paper has offered three contributions: first, it shows that modals can also embed sets of propositions, just like attitudes. Second, it revisits the semantics of MICA, which is considered as belonging to the class mirative evidentials, and most specifically to the sub-class of disconfirmational evidentials rather than as a common ground management device.<sup>13</sup> Third, it proposes that expressive content can be adjoined to a question, producing a *queclamative*, in which one of the alternatives highlighted as revealing subjective bias.

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<sup>12</sup>For an extended study of the concessivity of the future, see Baranzini and Mari (2019).

<sup>13</sup>See Frana and Rawlins (2019) for an account of MICA as a common ground management device. See Korotkova (2023) on Russian *razve*, for related, cross-linguistic discussion.



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