

From NPIs to Modal Particles

The present contribution presents a unified account of different uses of the particle *mai* (lit. ‘ever’) in Italian (see 1-3) although different uses of *mai* have been analyzed separately in the literature (Obenauer & Poletto 2000, Chierchia 2004/2013, Coniglio 2008, Cardinaletti 2011).

The Italian timeadverb *mai* ‘ever’ has an NPI use (Chierchia 2004/2013):

- (1) *Non sono mai stata a Pisa.*
 not was-I ever been in Pisa
 ‘I have never been in Pisa.’ (Literally ‘I haven’t ever been in Pisa’)

However, Coniglio (2008) and Cardinaletti (2011) observed that *mai* can be used as a Modal Particle (MP) in questions like 2 and 3, especially when it occurs in questions with an additional *mai* (see 2) or right-adjacent to extracted interrogative pronouns (see 3). These questions have often a rhetorical flavour indicated by the *doubt*-paraphrase in brackets (cf. Bocchiola & Gerolin 1999, Coniglio 2008, Cardinaletti 2011):

- (2) *Perché mai non è stata mai fornita una prova dell'esistenza in vita di Emanuela?*¹
 why MP not is been ever given a proof of the existence of Emanuela
 ‘Why didn’t anyone prove that Emanuela was alive?’
 (I, the speaker, doubt that there is a proof.)
- (3) *Cosa mai pensi che potresti fare? Strangolarmi?*
 what MP think-you that do-cond. make? strangle-me?
 ‘What do you think you can do to me? Strangle me?’ (I doubt that you can do anything.)

In a nutshell, we assume that *mai* does have the function of an NPI in 2 and 3. The only difference between *mai* in declaratives and questions is that in the latter case *mai* can have a different domain of quantification, i.e. it either quantifies over times like in 1 (cf. Chierchia 2004) or it quantifies over alternatives generated by the interrogative pronoun, e.g. over harmful things like strangling in 3 as we will show in our presentation. However, one needs to explain the licensing of NPIs in questions, “because questions are not downward entailing or negative” (cf. Giannakidou 2013: 117). Our solution to this problem goes back to Guerzoni (2003) who derives the licensing relation of NPIs in questions from a (covert) *whether*-operator which generates positive and negative alternatives in questions and it is these negative alternatives that license NPIs like *mai* in questions.

In what follows is our adaptation of Guerzoni’s account which will be spelled out in more detail in our presentation. We assume that e.g. (3) has the LF in (4.i) which is mapped to Hamblin’s semantics of questions in (4.ii). The *whether*-operator² allows us to derive negative propositions as alternatives (cf. sentences in bold in 4.iii.) and thereby licensing the NPI *mai*. The operator O exhaustifies the alternatives in (4.iv). The rhetorical effect comes about when all negative alternatives are asserted as true (cf. 4.iv a.):

- (4) LF of (3) i. [whether_j [what_i [Q [t_j <t,t> [**mai** [you can do t_i<e>]]]]]]

¹ <http://ricerca.repubblica.it/repubblica/archivio/repubblica/1995/03/24/un-intrigo-internazionale-all-ombra-dei-servizi.html>

² *Whether* denotes a characteristic function of a set, which contains an identity-function taking positive and negative propositions as its arguments (i.e. *whether* quantifies over functions of type <t,t>) (cf. Guerzoni 2003):

iv. [[whether]] = $\lambda f_{\langle \langle t,t \rangle, t \rangle} . \exists h_{\langle t,t \rangle} . [h = \lambda t. t=1 \text{ or } h = \lambda t. t=0]$ and $f(h)=1$

- ii. $[[LF]] = \lambda p. \exists f_{\langle t, t \rangle} \exists x [x \in \{\text{Things}\} \& p = \lambda w': (f(\mathbf{mai}(\text{you can do } x \text{ in } w')))]$
- iii. $\{\exists x [x \in \{\text{Things}\} \& p = \lambda w' \text{ you can do } x \text{ in } w' \vee$
 $\exists x [x \in \{\text{Things}\} \& (p = \lambda w' \neg \text{you can do } x \text{ in } w')]\} \approx$
 $\{\text{you can call me } \vee \neg \mathbf{you can call me}, \text{ you can strangle me } \vee \neg \mathbf{you can strangle me}\}$
- iv. a. Exhaustification of negative alternatives: O_{EXH} not [you can do something_{Focus} to me]
 b. Exhaustification of positive alternatives: O_{EXH} [you can do something_{Focus} to me]

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