

# *Wh*-words in modal existential constructions as non-canonical free choice items

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## 1 Intro

### Modal existential *wh*-constructions (MEC)

- MEC have three essential components: (i) modality realized by infinitive or subjunctive mood, (ii) existential quantification realized by a selecting verb with an existential component (‘be’, ‘have’, ‘look for’, ‘find’, etc.), and (iii) one or more fronted *wh*-words.
- MEC are attested in most European languages (all Slavic, most Romance, Hungarian, Greek, Yiddish) and some Semitic languages (Modern Hebrew, Classical Arabic).

- (1) Máme se [ proč smát].  
have<sub>1PL</sub> refl why laugh<sub>INF</sub>  
‘There is a reason why we can laugh’  
*Czech*
- (2) Nam ne-[ čego delat’].  
we<sub>DAT</sub> NEG- what do<sub>INF</sub>  
‘We have nothing to do’  
*Russian* (Rappaport 1986:1)
- (3) Nincs [ ki-nek { írunk / írjunk}].  
not.is who-to write<sub>INF.1PL</sub> write<sub>SUBJ.1PL</sub>  
‘We have no one we can write to’  
*Hungarian* (Grosu 2004:421/422)
- (4) Yeš [ ma laʔasot].  
is what do<sub>INF</sub>  
‘There is something to do’  
*Hebrew* (Izvorski 1998:159)

## Why MEC and free choice?

The pragmatic motivation for using free choice items instead of “normal” indefinite pronouns is the speaker’s need/desire to explicitly express arbitrariness/indifference/ignorance/irrelevance with respect to which value of the indefinite makes a given statement true. Similarly, MEC (as opposed to normal indefinite relatives) involve what we could call an ‘irrelevance component’. A sentence like ‘I enjoyed ESSLLI because **I had with whom to talk** about free choice items’ basically says that ‘At ESSLLI there was someone that I could speak with about FCIs and the actual identity of the person/people is quite irrelevant to the current discourse’. (Note the similarity to the English *some or other*.)

## Goal of the talk

The goal of this talk is to show that the pragmatic ‘irrelevance component’ of the MEC pairs with some semantic and syntactic restrictions, which are standardly associated with free choice items, namely a variation requirement, a failure to establish accessible discourse referents, polarity sensitivity, and some (so far unobserved) word-order restrictions.

## Outline of the talk

- §2 We’ll have a look at the basic properties of MEC (2.1) and we’ll see that the standard analyses (2.2) have no account of some of the phenomena that obligatorily go with MEC (2.3).
- §3 We’ll explore the idea that **the variable introduced by the *wh* in MEC has FCI properties** and we will see that it makes some correct predictions.
- §4 We’ll have a look how certain well-known theories of FCI score with respect to the observed phenomena and we’ll speculate about the nature of free choiceness.

# 2 The basic syntax and semantics of MEC

## 2.1 Properties

- Historically, the research on MEC branched out from the research on (free) relative clauses (Pesetsky 1982; Rivero 1986; Rudin 1986; Grosu 1994, etc.). More recently, MEC’s relation to embedded questions was explored (mainly Izvorski 1998).
- The current research seems to converge on the point that MEC are semantically related to relative clauses (RC) and syntactically to embedded questions (EQ) (Izvorski 1998; Caponigro 2003; Grosu 2004).

### RC properties

The basic semantics of MEC is one of relative clauses. Still, they cannot be identified with standard free relatives because of their indefinite (non-specific) nature.

- (5) Mary has with whom to speak. (in any MEC language)
- ‘There is some person such that Mary can speak to him’
  - \*‘Mary has the person/people with whom she can speak’ (expected FR-interpretation)
  - \*‘Mary has an answer to the question *With whom could I speak?*’ (expected EQ-interpretation)

### EQ properties (see mainly Izvorski 1998)

Transparency for extraction

- (6) a. Komu jsi neměl [MEC co dát t]?  
 who<sub>DAT</sub> AUX not.have what<sub>ACC</sub> give<sub>INF</sub>  
 ‘To whom was there nothing you could give *t*’
- b. ?Komu jsi nevěděl [EQ co dát t]?  
 who AUX not.know what give<sub>INF</sub>  
 ‘To whom didn’t you know what to give?’
- c. \*Komu jsi koupil [RC co chceš dát t]?  
 who AUX bought what want<sub>2SG</sub> give  
 ‘To whom did you buy what you want to give?’

Morphology of the *wh*: If a language has two sets of *wh*-forms, one for questions and the other for (free) relative clauses, MEC make use of the former. E.g. in Bulgarian *kakvo* ‘what’ is used in EQ and MEC and *kakvoto* ‘what’ is used in free RC (Thanks to Ivelina Nikolova for the data).

- (7) a. Imashe [MEC kakvo\*(-to) da kupya].  
 had what(-TO) COMP buy  
 ‘There was something you could buy’
- b. Ne znaeh [EQ kakvo\*(-to) da kupya].  
 not know what(-TO) COMP buy  
 ‘I didn’t know what to buy’
- c. Kupih [RC kakvo(\*-to) iskashe].  
 bought what(-TO) want  
 ‘I bought what you wanted’

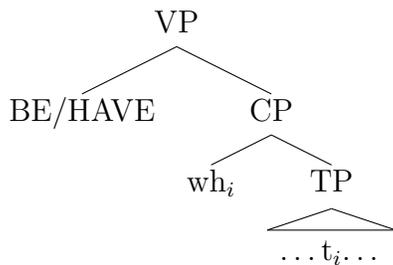
Multiple *wh*

- (8) a. Nemám [MEC komu co dát].  
 not.have who<sub>DAT</sub> what<sub>ACC</sub> give  
 ‘There’s no one to whom I could give something’  
 Lit. ‘I don’t have whom what to give’
- b. Nevím [EQ komu co dát].  
 not.know who what give  
 ‘I don’t know what to give to whom’
- c. \*Dal jsem [RC komu co jsem koupil]  
 give AUX who what aux buy  
 ‘I bought what I gave to whom’

## 2.2 Standard analysis

- Syntactically, MEC have argued to be bare CPs, like EQ (Izvorski 1998; Caponigro 2003; Grosu 2004); semantically, they are open propositions, with *wh* lexicalizing the free variable(s):  $\lambda x.P(x)$ .
- The matrix predicate BE/HAVE incorporates an existential quantifier and asserts the (non)emptiness of a set of individuals with a certain property  $P$  realized by the MEC (Izvorski 1998; Caponigro 2003):  $(\neg)\exists x.P(x)$ .<sup>1</sup>

(9) *The syntax of MEC*



### A problem

It must be stipulated that the matrix predicate BE/HAVE quantifies over individual variables. If the syntax is one of EQ, what precludes the matrix predicate to quantify over the propositional variable, yielding the meaning in (5c)?

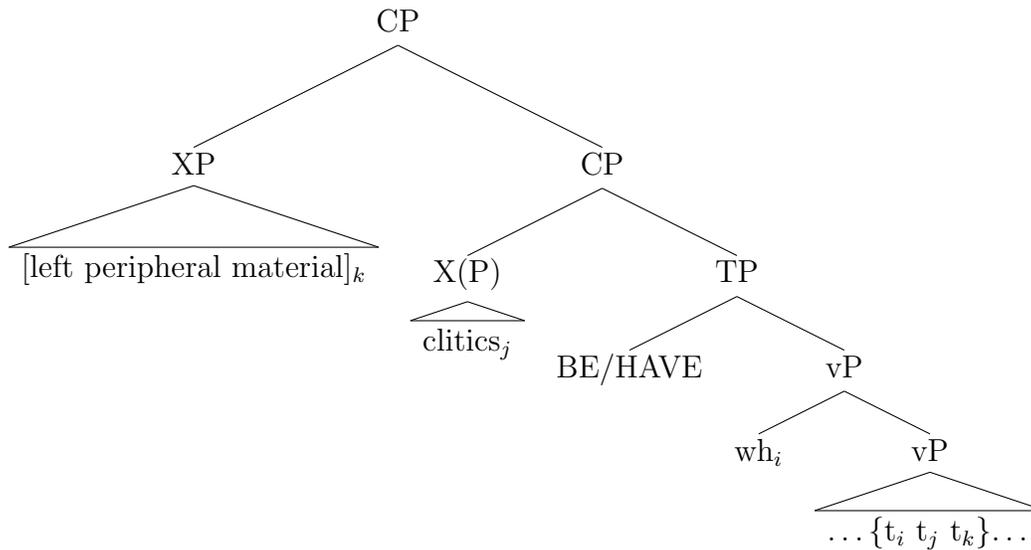
### An alternative: Evidence from Slavic

Slavic MEC appear to be vPs/VPs rather than CPs. Thanks to this fact, the above problem receives a more principled explanation. It became standard to assume that the edge of VPs make available a default existential quantifier ranging over individuals, so-called *existential closure* (Heim 1982). If BE/HAVE in MEC lexicalizes/incorporates the existential closure, it is no surprise that it quantifies over individual variables (and not propositional variables). Furthermore, we expect it to behave in an unselective manner, which makes multiple *wh* possible, cf. (8a)).

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<sup>1</sup>Grosu (2004) assumes that the existential quantifier is located in a specialized C-head, where the matrix predicate only needs to ‘match’ its existential nature).

(10) *The syntax of Czech MEC* (Šimík 2008)



Arguments for the monoclausal nature of BE/HAVE + MEC:

- Czech provides a whole battery of evidence, distinguishing MEC from EQ (see Šimík 2008).
  - Czech MEC are transparent for clitic-climbing;
  - they are allergic to CP-correlatives (*I don't know **it**, whether he did it*);
  - *wh* in Czech MEC can receive (nominative) case from and can agree with the 'matrix' predicate;
  - they can only take narrow scope with respect to clause-mate universal quantifiers.
- The vP-analysis of MEC plausibly holds also for other Slavic languages. E.g. Serbo-Croatian clitics also climb freely out of MEC (Ljiljana Progovac, p.c.). Kondrashova (2008) convincingly argues that the *wh* in Russian MEC incorporates into the (negative) existential quantifier BE (cf. the example in (2)), which is straightforward if MEC are vPs but hard to imagine if they are CPs (that would have to be a cross-clausal incorporation).

### 2.3 Problematic generalizations

Cross-linguistically, MEC exhibit a number of properties that are not reducible to either EQ or RC. These properties cannot be explained without additional assumptions.

#### Modality

There are no non-modal MEC (cf. Grosu 2004).<sup>2</sup>

<sup>2</sup>Note that this follows from my analysis, given that full-fledged clauses must be CPs and that embedded *wh*-infinitivals are always modal.

- (11) \*Včera jsem měl [ s kým jsem mluvil].  
 yesterday AUX have with who AUX talk  
 ‘Yesterday there was someone with whom I spoke’

Furthermore, MEC only allow for existential modality (noted and left unexplained e.g. by Izvorski 1998)

- (12) Mary has someone to speak to.  
 a.  $\exists x.human(x) \wedge \Diamond speak(m, x)$   
 b.  $\exists x.human(x) \wedge \Box speak(m, x)$
- (13) Mary has with whom to speak. (in any MEC-language)  
 a.  $\exists x.human(x) \wedge \Diamond speak(m, x)$   
 b.  $*\exists x.human(x) \wedge \Box speak(m, x)$

We can state the following generalizations

- (14) MODALITY-IN-*wh*-INFINITIVALS GENERALIZATION (cf. Bhatt 2001)  
 a. Embedded *wh*-infinitivals express modality.  
 b. The modality is either existential or universal, depending on *context*.
- (15) MODALITY-IN-MEC GENERALIZATION  
 a. MEC (very often being infinitival) express modality (in accord with (14a)).  
 b. MEC are compatible with existential modality but are allergic to universal modality (contra (14b)).

### Movement of the *wh*

Multiple MEC, even though generally possible, are more restricted than multiple EQ

- (16) a. Nemám [<sub>MEC</sub> { **komu co** dát } / \*{ **komu** dát **co** }]  
 not.have who what give / { who give what }  
 ‘There’s no one to whom I could give something’  
 b. Nevím [<sub>EQ</sub> { **komu co** dát } / { **komu** dát **co** }]  
 not.know who what give / { who give what }  
 ‘I don’t know what to give to whom’

Some languages do not allow for multiple MEC (Portuguese, Adriana Cardoso, p.c.)

- (17) \*Eu não tenho [ a quem dar o quê]  
 I not have to whom give what  
 ‘There’s no one to whom I could give something’

The following generalization seems to hold

- (18) MULTIPLE-MEC GENERALIZATION  
 a. A language allows for multiple MEC only if it independently allows for multiple *wh*-movement (yes: Slavic; no: Portuguese)

- b. If a language uses multiple MEC, all *wh* have to move, even if the language allows for a single *wh*-movement in other contexts (embedded questions).

## Sum-up

The standard accounts have no way to address the generalizations (15) and (18).

## 3 The FCI-flavor of *wh* in MEC

- **Claim:** *Wh* in MEC introduce a variable with an incorporated FCI component, namely a *variation requirement* of some sort. As a consequence, MEC show modality and referentiality restrictions.
- **Supporting evidence:** *Wh* in MEC show polarity sensitivity and word-order restrictions reminiscent of some FCI-cases.

### 3.1 The issue of modality

#### (19) Variation requirement

A variable introduced by an FCI must not receive the same value in all possible worlds of the modal base.

This gives us the chance to account for the contrast in (20) by the same tools as for the contrast in (21).<sup>3</sup>

#### (20) Mary has with whom to speak. (in any MEC-language)

- a.  $\exists x.human(x) \wedge \Diamond speak(m, x)$
- b.  $*\exists x.human(x) \wedge \Box speak(m, x)$

- (21) a. Mary can speak with anyone.  
 $\forall x[human(x) \rightarrow \Diamond speak(m, x)]$
- b. \*Mary must speak with anyone.  
 $\forall x[human(x) \rightarrow \Box speak(m, x)]$

The variation requirement in (19) is present in one way or another in most theories of FCI. Some examples

#### (22) Variation requirement (Giannakidou 2001:706), formulated as a presupposition lexically associated with free choice items

$\forall w_1, w_2 \in W_i : \llbracket \alpha \rrbracket^{w_1} \neq \llbracket \alpha \rrbracket^{w_2}$  where  $\alpha$  is the free choice phrase

#### (23) Fluctuation requirement (Dayal 2008), formulated as an implicature lexically associated with *any*

$\neg \exists X. \forall w'. w_a \leq w'. X = \lambda x [P(w')(x) \wedge Q(w')(x)]$

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<sup>3</sup>I represent *anyone* in (21) as a universal quantifier without making any claims about whether the universality is real (Dayal 1998) or inferred (Jayez and Tovena 2005).

Dayal’s *Fluctuation requirement* (23) could directly be applied to the case of *wh* in MEC. Giannakidou’s *Variation requirement* (22), on the other hand, is too strong for the present purposes because we are dealing with existential quantification over worlds, with which the universal presupposition is in clash.<sup>4</sup>

### 3.2 Referential properties

FCI and *wh* have analogous referential qualities, which arguably follows from the variation requirement.

#### Normal indefinites vs. FCI

FCI, as opposed to normal indefinites, generally establish discourse referents only in non-actual possible worlds, which makes them inaccessible for later reference in the actual world.

- (24) a. Možná **někdo**<sub>i</sub> přijde. Nezapomeň **mu**<sub>i</sub> nabídnout kafe.  
 maybe someone comes not.forget<sub>IMP</sub> him offer coffee  
 ‘Maybe someone will come. Don’t forget to offer him a coffee.’  
 b. **Kdokoliv**<sub>i</sub> může přijít. # Nezapomeň **mu**<sub>i</sub> nabídnout kafe.  
 who<sub>FCI</sub> can come not.forget<sub>IMP</sub> him offer coffee  
 ‘Anyone can come. Don’t forget to offer him a coffee.’

#### RC headed by indefinites vs. MEC

*Wh* in MEC once again display a behavior parallel to that of FCI. The referents they establish are not accessible for later reference, as opposed to closely related RC-modified indefinites.

- (25) If there are any problems. . .  
 a. našťestí je [ někdo komu můžu zavolat]<sub>i</sub>. Mluvil jsem s **ním**<sub>i</sub> včera  
 luckily is someone who can<sub>1SG</sub> call spoke aux with him yesterday  
 ‘luckily there is [someone who I can call]<sub>i</sub>. I spoke to him<sub>i</sub> yesterday.’  
 b. našťestí je [ komu zavolat]<sub>i</sub>. # Mluvil jsem s **ním**<sub>i</sub> včera  
 luckily is who call spoke aux with him yesterday  
 ‘luckily there is [someone to call]<sub>i</sub>. I spoke to him<sub>i</sub> yesterday.’

### 3.3 Word-order dependencies

#### A Czech FCI: *wh-koliv*

In some DE-contexts the Czech FCI displays a peculiar word-order sensitivity. If it is pre-verbal, it behaves as an indefinite and falls in the scope of the downward entailing operator (26), if it is in a postverbal (focus) position, it seems to behave as a universal quantifier and triggers the ‘just any’ interpretation (27).

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<sup>4</sup>See e.g. Jayez and Tovená (2005) for some criticism of Giannakidou’s Variation requirement.

- (26) Petr popřel že by se s **kýmkoliv** vyspal  
 Petr denied that AUX refl with who<sub>F<sub>CI</sub></sub> sleep  
 ‘Petr denied that he slept with anybody’  
 $claim(p, [\neg \exists x.sleep(p, x)])$
- (27) Petr popřel že by se vyspal s **kýmkoliv**  
 Petr denied that AUX refl sleep with who<sub>F<sub>CI</sub></sub>  
 ‘Petr denied that he slept with just anybody’  
 $claim(p, [\forall x[human(x) \wedge slept(p, x)] \rightarrow \neg[x \text{ was chosen arbitrarily}]])$

The following examples show the dependency of the former but not the latter on a DE-context.

- (28) \*Petr tvrdil že se s **kýmkoliv** vyspal  
 Petr claimed that refl with who<sub>F<sub>CI</sub></sub> slept  
 ‘Petr claimed that he slept with anybody’  
 $claim(p, [\exists x.sleep(p, x)])$
- (29) Petr tvrdil že se vyspal s **kýmkoliv**  
 Petr claimed that refl slept with who<sub>F<sub>CI</sub></sub>  
 ‘Petr claimed that he slept with just anybody’  
 $claim(p, [\forall x[human(x) \wedge slept(p, x)] \rightarrow [x \text{ was chosen arbitrarily}]])$

### Obligatory *wh*-movement in MEC

Postverbal *wh* in MEC can only be interpreted with a wide-scope interpretation, namely as question words (and the whole sentence becomes an echo-question). They cannot fall in the scope of BE/HAVE, however. The behavior is parallel to the one of a polarity sensitive FCI.

- (30) Ty si nemáš [s kým o čem povykládat]?  
 you refl not.have with whom about what talk  
 ‘There is no one with whom you could talk about something?’
- (31) Ty si nemáš [s kým povykládat o čem]?  
 you refl not.have with whom talk about what  
 a. ‘There is no one for you to talk about what?’  
 b. \*‘There is no one with whom you could talk about something?’

## 3.4 NPI-like properties of MEC

### True negative polarity MEC

Some Czech MEC behave as NPIs. The NPI-behavior is induced by certain *wh*-expressions, namely *kdo* ‘who<sub>NOM</sub>’, *jak* ‘how’, and *kdy* ‘when’.

- (32) \*Má tady kdo/jak/kdy uklidit.  
 has here who/how/when clean up  
 ‘There is some one/some time/some way to clean here up’

- (33) Nemá tady kdo/jak/kdy uklidit.  
not.has here who/how/when clean up  
‘There is no one/no time/no way to clean here up’
- (34) Pokud tady má kdo/jak/kdy uklidit, tak to není problém  
if here has who/how/when clean up so it not.is problem  
‘If there’s any one/any way/any time to clean here up, then it’s no problem’

The intuitions above are supported by an auxiliary corpus research.<sup>5</sup>

Tabulka 1: Polarity sensitivity of Czech MEC: An auxiliary corpus research

	AFFIRMATIVE CONTEXTS	NEGATION CONTEXTS	DE CONTEXTS (OUT OF POSITIVE)	COORDINATION OF <i>wh</i> (OUT OF POSITIVE)
<i>co/čeho/čemu</i> ‘what <sub>ACC/GEN/DAT</sub> ’	<b>67%</b> (60/90)	<b>67%</b> (60/90)		
<i>koho/komu</i> ‘what <sub>GEN-ACC/DAT</sub> ’	<b>48%</b> (29/60)	<b>65%</b> (39/60)		
<i>proč</i> ‘why’	<b>47%</b> (14/30)	<b>30%</b> (9/30)		
<i>kdo</i> ‘wh <sub>NOM</sub> ’	<b>5%</b> (5/100)	<b>38%</b> (19/50)	<b>80%</b> (4/5)	
<i>kdy</i> ‘when’	<b>5%</b> (5/100)	<b>53%</b> (16/30)	<b>60%</b> (3/5)	<b>40%</b> (2/5)
<i>jak</i> ‘how’	<b>0%</b> (0/100)	<b>60%</b> (18/30)		

### Negative presuppositions

Intuitively, affirmative MEC sound much more natural in environments with negative inferences, which can be triggered by expressions like *naštěstí* ‘luckily’, *už* ‘already’, or by contrastive focus on BE/HAVE. This fact seems to suggest that all MEC are weakly polarity sensitive.

- (35) Naštěstí mu máme co koupit.  
luckily him have<sub>1PL</sub> what buy  
‘Luckily we have something to buy for him’  
Inference: ‘The probability of not having anything to buy for him is rather high’

## 3.5 Summary

We saw four points where *wh* in MEC behave in a strikingly parallel way to FCI

- Both are subject to a variation requirement of some sort, which explains the generalization in (15).

<sup>5</sup>The method of data collection: Google search for collocations (neg)HAVE.present.any person+*wh*. The numbers show the frequency of MEC appearance in a certain number of Google-ordered hits (e.g. out of the first 100 Google hits for the query HAVE+*kdo*, 5 were MEC). Other (non-MEC) hits usually included multiple *wh*-questions (*Co má kdo půjčeno?* ‘Who has borrowed what?’).

- Both fail to establish fully accessible discourse referents, which follows from the previous point.
- Both *wh* in MEC and some indefinite FCI are allergic to postverbal positions, where they acquire wide scope operator readings (a question operator and a universal operator respectively). This clarifies the generalization in (18).
- *Wh* in MEC are weakly polarity sensitive, like some indefinite mutations of FCI.

## 4 A speculative conclusion

One of the general points that clearly emerges when we look at MEC is the need for a careful decomposition of features that constitute free choiceness. The recent research seems to have been driven by the desire to find or define the ‘core’ free choiceness property. As it appears, this goal may turn out to be illusive. Free choiceness may as well be a selection of properties, some of which can be missing in the specification of some FC items.

To be more particular, *wh* in MEC are *lacking* the following properties that have been claimed to constitute the ‘core’ of FCI.

- universal quantification (Dayal 1998; Sæbø 2001)
- disjunction (and exhaustification) (Abrusán 2006; Aloni 2007)
- widening (even though we are dealing with indefinites/existentials, to a certain extent even polarity sensitive) (Kadmon and Landman 1993; Kratzer 2005)
- ignorance/indifference (von Stechow 2000; Choi 2007)
- equity: no loser, no winner constraint (Jayez and Tovena 2005)

On the other hand, the following FCI-like properties are retained in the *wh* in MEC:

- vagueness/variation requirement (Dayal 1998; Giannakidou 2001)
- anti-referentiality (non-specificity) (Jayez and Tovena 2005)
- irrelevance (with respect to the discourse)

Interestingly (and perhaps significantly), the missing properties have often been claimed to be associated with specialized morphemes, which in turn often attach to a *wh*-base. The properties that are present in the *wh* in MEC are, on the other hand, more naturally associated with the indefinite core itself and are often attested in ‘normal’ non-specific indefinites.

In conclusion, what we seem to witness in the item under discussion is a hybrid between a non-specific indefinite and a free choice/polarity sensitive indefinite. This mixed behavior seems to require a sufficiently flexible theory, one which allows for a relatively loose notion of free choiceness.

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