

On the origin and the development of infinitival *wh*-complements in the history of Polish

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1. Introduction

As Sabel (2005: 96, 2006: 249) points out, languages differ with respect whether they allow a *wh*-movement to [Spec,FocP] in infinitives. If they do (like English and Russian), they also have the option of filling the C-system of this infinitive with a base-generated overt element. If a language has a defective infinitival C-system (like German and Mainland Scandinavian languages) and the movement does not take place, the option of base-generation of an overt element should be ruled out.

Polish belongs to the first group admitting the *wh*-movement to [Spec,FocP]. Two patterns can be attested: (i) embedded infinitival questions (= EIQs) and (ii) modal existential *wh*-constructions (= MECs):

[1] *Człowiek nie wiedział [gdzie uciekać]¹ [EIQ]*
human.being NEG know.3SG.M.*l*-PTCP where run.away.INF
'One didn't know where to run away.'
(NKJP, *Express Ilustrowany*, 28/7/2001)

[2] *Nie mam [gdzie zaparkować] [MEC]*
NEG have.1SG where park.INF
'There is no place where I could park (my car).'
(NKJP, *Dziennik Zachodni*, 26/6/2001)

[1] and [2] do not differ on the surface:

- ✓ the embedding matrix predicates, *wiedzieć* 'know' in [1] and *mieć* 'have' in [2], are both under the scope of the negation operator *nie*,
- ✓ the embedded *wh*-clauses are headed by the *wh*-operator *gdzie* 'where',
- ✓ the embedded V-heads are not specified for any φ -features (= infinitives).

However, EIQs and MECs differ in many respects. For instance, while EIQs can be introduced by the *wh*-operator *dlaczego* 'why', MECs cannot:

[3] *Wielu kierowców zastanawia się, [dlaczego zmieniać ogumienie] [EIQ]*
many drivers wonder.3SG REFL why change.INF tires
'Many drivers wonder why they should change tires.'
(NKJP, *Gazeta Poznańska*, 23/3/2006)

¹ Abbreviations used in this paper: 1/2/3 - 1st/2nd/3rd person, ACC - accusative, AOR - aorist, CL - clitic, COND - conditional mood, DAT - dative, INF - infinitive, INS - instrumental, LOC - locative, *l*-PTCP - *l*-participle, M - masculine, NEG - negation, N-VIR - non-virile, PL - plural, REFL - reflexive pronoun, SBJ - subjunctive, SG - singular.

[1'] *Człowiek nie wiedział [dlaczego uciekać]* [EIQ]
 human.being NEG know.3SG.M.l-PTCP why run.away.INF
 'One didn't know why one should run away.'

[2'] **Nie mam [dlaczego zaparkować]* [MEC]
 NEG have.1SG why park.INF

Notice that English EIQs cannot be introduced by *why* (see Barrie 2007, Bhatt 2006: 107, Huddleston & Pullum 2002: 872, Quirk et al. 1985: 839, Shlonsky & Soare 2011: 653):

[4] **She wonders [why to study]*.

Czech behaves like Polish allowing *proč* 'why' in EIQs:

[5] *Lidé se ptali, [proč čekat až do půlnoci]* [EIQ]
 people REFL ask why wait.INF until midnight
 'People were asking why they should wait until midnight.'
 (Radek Šimík, pers. comm.)

On the other hand, it differs from Polish in admitting MECs with *proč*:

[6] *Nemáš [proč se smát]* [MEC]
 NEG.have.2SG why REFL laugh.INF
 'There's no reason for you to be laughing.'
 (Radek Šimík, pers. comm.)

Leading questions

- Where do the differences between EIQs and MECs come from?
- What are the emergence circumstances of EIQs and MECs?
- How did EIQs and MECs develop?

Outline of the talk

Section 2: EIQs and MECs in Modern Polish

- ✓ embedding predicates
- ✓ *wh*-phrases

Section 3: EIQs and MECs in the history of Polish

- ✓ EIQs
- ✓ MECs

Section 4: Concluding remarks

2. EIQs and MECs in Modern Polish

In this section, I will give a general overview of selected differences between EIQs and MECs in Modern Polish (1900 -). The main focus will be on: (i) embedding matrix predicates and (ii) *wh*-phrases.

According to Šimík (2011) MECs cannot be entertained as EIQs, nor as one of their subtypes. They function rather as special type of an A-bar construction, i.e. a syntactic tree containing an operator-variable dependency (for a detailed explanation see chap. 3 in Šimík 2011).

2.1. Embedding predicates

2.1.1. EIQs

Our point of departure is the classification of EIQ-embedding predicates in English examined in Bhatt (2006: 102ff.):

	Predicate class + predicates	EIQs
1.	verbs of retaining knowledge: <i>know, be aware, recall, remember, forget</i>	+
2.	verbs of acquiring knowledge: <i>learn, notice, find out, discover</i>	+
3.	decision verbs: <i>decide, decide on, determine, specify, agree on, control</i>	+
4.	verbs of cogitation: <i>consider, debate, deliberate, fret about</i>	+
5.	opinion verbs: <i>agree about, be certain (about), have an idea (about)</i>	+
6.	verbs of one-way communication: <i>tell, show, indicate, inform, disclose</i>	+
7.	verbs of two-way communication: <i>discuss, squabble over, talk about</i>	+
8.	inquisitive verbs: <i>ask, wonder, investigate, be interested in</i>	+
9.	verbs of conjecture: <i>guess, predict, bet on, estimate</i>	-
10.	verbs of dependency: <i>depend on, be related to, have an influence on</i>	-
11.	verbs of relevance: <i>matter, be relevant, be important, be significant</i>	-
12.	verbs of disbelief: <i>doubt</i>	-
13.	emotive predicates: <i>be surprising, be amazing</i>	-

Table 1: EIQ-embedding predicates in Modern English
(based on Karttunen 1977, Huddleston & Pullum 2002 and Bhatt 2006)

Building on Karttunen (1977) and on the data extracted from the Wall Street Journal corpus, Bhatt (2006) observes that English EIQs cannot be embedded under verbs of conjecture, verbs of relevance, verbs of dependency, and emotive predicates:

[7]	* <i>John guessed</i> [EIQ <i>who to talk at the party</i>]	[<i>guess</i>]
[8]	* <i>It depends on</i> [EIQ <i>how much to pay</i>]	[<i>depend on</i>]
[9]	* <i>It is important</i> [EIQ <i>who to invite to the party</i>]	[<i>be important</i>]
[10]	* <i>It is surprising</i> [EIQ <i>when to leave</i>]	[<i>be surprising</i>]

Huddleston & Pullum (2002: 985) add verbs of disbeliefs to this group as well:

[11] **I doubt* [EIQ *whether to accept*]

Polish differs from English to some extent:

	Predicate class + predicates	ENQS
1.	verbs of retaining knowledge: <i>wiedzieć</i> ('to know'), <i>zapominać</i> ('to forget')	+
2.	verbs of acquiring knowledge: <i>odkryć</i> ('to discover'), <i>wymaleźć</i> ('to figure out')	+
3.	decision verbs: <i>decydować</i> ('to decide')	+
4.	verbs of cogitation: <i>rozważać</i> ('to consider'), <i>studiować</i> ('to study')	+
5.	opinion verbs: <i>być zgodnym</i> ('be divided over'), <i>być pewnym</i> ('be sure')	+
6.	verbs of one-way communication: <i>powiedzieć</i> ('to tell'), <i>wyjaśnić</i> ('to explain')	+
7.	verbs of two-way communication: <i>dyskutować</i> ('to discuss'), <i>kłócić się</i> ('to quarrel')	+
8.	inquisitive verbs: <i>zastanawiać się</i> ('to wonder'), <i>pytać</i> ('to ask')	+
9.	verbs of conjecture: <i>zgadywać</i> ('to guess')	+
10.	verbs of dependency: <i>zależać od</i> ('to depend on'), <i>mieć wpływ na</i> ('have influence on')	+
11.	verbs of relevance: <i>być ważnym</i> ('to be important'), <i>być istotnym</i> ('to be relevant')	-
12.	verbs of disbelief: <i>powątpiewać</i> ('to doubt')	-
13.	emotive predicates: <i>być zaskakującym</i> ('to be surprising'), <i>dziwić się</i> ('to be surprised')	-

Table 2: EIQ-embedding predicates in Modern Polish

First, Polish EIQs are embeddable under verbs of conjecture:

[12] *Nie mogłem odgadnąć, [EIQ jak dodać podkategorię]*
 NEG could.l-PTCP.1SG.M guess.INF how add.INF subdivision
 'I couldn't guess how I should/could add subcategory.'
 (NKJP, an internet forum, 02/2007)

Second, EIQs are also compatible with verbs of dependency:

[13] *Zależy (od tego) [EIQ czy stać*
 depend.3SG from that whether afford.INF
cię na imprezę w lokalu]
 you.ACC on party.ACC in club.LOC
 'It depends on whether you have enough money to organize a party in a club.'
 (NKJP, an internet forum, 27/8/2011)

Third, Polish EIQs seem to be embeddable under emotive verbs:

[14] *Dziwią się, [EIQ dlaczego robić taki wyjątek]*
 wonder.3PL REFL why do.INF such exception.ACC
 '[They] are wondering why they should make such an exception.'
 (NKJP, *Kancelaria Sejmu Rzeczypospolitej Polskiej*, 27/3/2001)

However, *dziwić się* is not used as an emotive predicate in (14). It is rather a cogitation verb. We can validate this claim by replacing *dziwić się* by the inherent cogitation verb *zastanawiać się*:

- [15] *Zastanawiają się, [EIQ dlaczego robić taki wyjątek]*
 wonder.3PL REFL why do.INF such exception.ACC

Accordingly, I conclude that Polish EIQs, like their English counterparts, cannot be embedded under emotive predicates:

- [16] **To zaskakujące, [EIQ co dzisiaj robić]*
 that surprising what today do.INF
 Intended: *‘It’s surprising what to do today.’

2.1.2. MECs

Depending on language, MECs can be selected by different predicates. Šimík (2011) provides a typological overview of MEC-embedding predicates (see also Grosu 2004):

Language	be	have	find	seek	choose	give	get	buy	send	bring	appear	build	want
Czech	+	+	-	-	-	-	-	-	-	-	-	-	-
Polish	+	+	-	-	-	-	-	-	-	-	-	-	-
Italian	+	+	-	-	-	-	-	-	-	-	-	-	-
Hungarian	+	n	+	-	-	-	-	-	-	-	-	-	-
Slovenian	+	+	-	+	+	-	-	-	-	-	-	-	-
Catalan	+	+	+	+	+	+	-	-	-	-	-	-	-
Bulgarian	n	+	+	+	+	+	-	+	-	-	-	-	-
Hebrew	+	n	+	+	+	+	+	-	-	-	-	-	-
Latvian	+	n	+	+	+	+	+	-	+	-	-	-	-
Portuguese	n	+	+	+	-	+	-	-	-	+	-	-	-
Serb-Croat	n	+	+	+	+	+	+	+	+	-	-	-	-
Greek	-	+	+	+	+	+	-	+	+	+	-	-	-
Russian	+	n	+	+	+	+	-	+	-	+	+	-	-
Romanian	-	+	+	+	+	+	+	+	+	+	+	+	-
French	+	+	+	+	+	+	+	+	+	+	+	+	-
Spanish	+	+	+	+	+	+	+	+	+	+	+	+	-

Table 3: MEC-embedding predicates
 (taken from Šimík 2011: 32)

As can be inferred from Table 3, Polish MECs can be licensed only by two matrix predicates, *mieć* 'have' and *być* 'be':

[2] *Nie mam [MEC gdzie zaparkować] [mieć]*
 NEG have.1SG where park.INF
 'There is no place where I could park (my car).'
 (NKJP, *Dziennik Zachodni*, 26/6/2001)

[17] *Latem jest [MEC gdzie pójść na spacer] [być]*
 summer.INS be.3SG where go.INF on walk
 'There is a place where we can take a walk in the summer.'
 (NKJP, *Dziennik Zachodni*, 23/11/2004)

Notice, however, that *szukać* 'seek', for instance, embeds MECs too:

[18] *Szukam [MEC gdzie kliknąć] [szukać]*
 seek.1SG where click.INF
 'I'm trying to figure out where I should click.'
 (NKJP, an internet forum)

As for *znaleźć* 'find', I could find the following corpus example:

[19] *Nie mogę znaleźć [MEC gdzie zamówić] [znaleźć]*
 NEG can.1SG find.INF where order.INF
 'I can't find the place where I could order (it).'
 (NKJP, an internet forum, 18/8/2005)

In [19] the matrix predicate is modified by the modal verb *móc* 'can'. As Adger & Quer (2001) illustrate, modal and negation operators may affect the selection properties of clause-embedding predicates. In other words, it would be better to find examples without any modal elements in the matrix clause. I could not find any appropriate corpus examples with *znaleźć* though.

Even if we extend the sample of MEC-embedding predicates proposed by Šimík (2011), we end up with approximately 5 - 6 predicates. The group of EIQ-embedding predicates is much larger.

2.2. Wh-phrases

2.2.1. EIQs

In contrast to English, Polish EIQs can be introduced by all *wh*-phrases, cf. [1] for *gdzie* 'where', [3] for *dlaczego* 'why', [12] for *jak* 'how' and [13] for *czy* 'whether'. In general, no restrictions occur meaning that other *wh*-phrases can be used too:

[20] *Zastanawiały się [EIQ kiedy otworzyć szampana] [kiedy]*
 wonder.l-PTCP.N-VIR.PL REFL when open.INF champagne
 'They were wondering when they should open the champagne bottle.'
 (NKJP, *Wieczór Wybrzeża*, 14/1/2000)

[21] *Nie wiem [EIQ co robić] [co]*
 NEG know.1SG what do.INF
 'I don't know what to do.'
 (NKJP, *Dziennik Zachodni*, 14/11/2005)

[22] *Trzeba wiedzieć, [EIQ kogo pytać] [kto]*
 need know.INF who.ACC ask.INF
 'One has to know whom to ask.'
 (NKJP, *Gazeta Poznańska*, 29/9/2004)

Table 4 gives an overview:

<i>co</i> 'what'	<i>kto</i> 'who'	<i>gdzie</i> 'where'	<i>kiedy</i> 'when'	<i>jak</i> 'how'	<i>dlaczego</i> 'why'
+	+	+	+	+	+

Table 4: *Wh*-phrases introducing ENQs in Polish

2.2.2. MECs

Šimík (2011) proposes the following cross-linguistic hierarchy of *wh*-words for MECs

[23] {*what, who, where*} > {*when, how*} > *why*

and states:

"If a language disallows the use of a certain *wh*-word in MECs, all *wh*-words that are lower on the hierarchy are disallowed, too."
 (Šimík 2011: 39)

Accordingly, he divided languages into five groups:

- a) Languages with no restrictions: Bulgarian, Catalan, Czech, Greek, Hungarian, Romanian, Serbo-Croatian, Spanish, Ukrainian
- b) Languages which disallow *why*: Hebrew, Slovenian
- c) Languages which disallow *how* and *why*: Latvian, Russian
- d) Languages which disallow *when* and *why*: Polish, Portuguese**
- e) Languages which disallow *when*, *how*, and *why*: French

[2] illustrates that *gdzie* 'where' is compatible with Polish MECs. *Dlaczego* 'why', in turn, cannot introduce MECs, cf. [2']. Following Šimík (2011), we expect *co* 'what', *kto* 'who' and *jak* 'how' to embed MECs in Polish. This is to be confirmed by the following corpus examples:

[24] *A dzieciaki nie miały* [MEC *co robić*] [co]
and children NEG have.l-PTCP.N-VIR.PL what do.INF
'And children had nothing to do.'
(NKJP, *Dziennik Zachodni*, 08/01/2009)

[25] *Nie ma* [MEC *kogo spytać o towar*] [kogo]
NEG have.3SG who.ACC ask.INF about article
'There is nobody whom we could ask about the article.'
(NKJP, *Dziennik Zachodni*, 26/7/2001)

[25] *Nie mam* [MEC *jak pracować*] [how]
NEG have.1SG how ask.INF
'I have no possibility to work.'
(NKJP, *Dziennik Zachodni*, 13/12/2005)

Contrary to Šimík (2011), I claim that MECs can be headed by the *wh*-phrase *kiedy* 'when', too:

[26] *Nie mam* [MEC *kiedy wypocząć*] [when]
NEG have.1SG when rest.INF
'I have no time to rest.'
(NKJP, *Gazeta Poznańska*, 13/9/2001)

Table 5 gives an overview:

<i>co</i> 'what'	<i>kto</i> 'who'	<i>gdzie</i> 'where'	<i>kiedy</i> 'when'	<i>jak</i> 'how'	<i>dlaczego</i> 'why'
+	+	+	+	+	-

Table 5: *Wh*-phrases introducing MECs in Polish

2.3. Interim summary

As it turns out, the distributional properties of EIQs and MECs provide empirical evidence underpinning the view that both patterns cannot be brought down to a common denominator, i. e. to the focus movement of *wh*-phrases and the presence of infinitives.

3. EIQs and MECs in the history of Polish

In KTS, an Old Polish corpus containing 17 sources, I could not find any examples resembling the structures of Modern Polish ENQs and MECs given in [1] and [2] respectively. Though I do not claim that it was not possible in Old Polish to express similar kinds of attitudes towards what is embedded.

3.1. EIQs

The only difference between Modern Polish and Old Polish EIQs is that the latter did not consist of infinitives. Instead, their verbal heads used to bear the subjunctive morphology:

- [27] *ale ja nie wiem, [jako by to być]*
 and I NEG know.1SG how COND.CL this be.INF
 'But I don't know how to live.'
 (PolDi, *ListyDoMarysi*)

First EIQs started occurring in Middle Polish:

- [28] *nie wiedzieli [EIQ czym go*
 NEG knew.1-PTCP.PL.VIR what.INS he.ACC
zadzierżeć w żywocie iego]
 keep.INF in life his
 'They didn't know how to save him.' (Rej 1558: 21)

[29] *A ja nie wiem, [EIQ kam sie podzieć]*
 and I NEG know.1SG where REFL go.INF
 'And I don't know where I should go.'
 (PolDi, *Piesni*)

What is interesting about [28] and [29] is that the dependent EIQs are embedded under the verb of retaining knowledge *wiedzieć* 'know', which is under the scope of the negation marker *nie*.

The group of EIQs-embedding predicates expanded mainly in New Polish, cf. [30] for *ułożyć* 'discuss and decide':

[30] *razem ułożymy, [EIQ co zrobić z Tadeuszem]*
 together discuss+decide.1PL what do.INF with T.INS
 'We will together discuss and decide what to do with Tadeusz'
 (Mickiewicz 1834: 85)

Remarkably, as observed by Fischer et al. (2000), Los (2005) and Gärtner (2009), Old English EIQs behaved as their Old Polish counterparts did. Instead of infinitives subjunctive complements occurred:

[31] *þæt hy ne bodian ælcon men*
 that they not preach.3PL each man.DAT
 [*hwæt him sy to donne*]
 what him be.3SG.SBJ to do.INF
 'to tell anyone what they should do' (Los 2005: 113)

First EIQs started occurring in Middle English. Similar to Polish, the selected EIQ given in the example [32] is licensed by the negated matrix predicate *know*:

[32] *ant nuste [EIQ hwet seggen]*
 and knew.not what say
 'and didn't know what to say'
 (Fischer et al. 2000: 96)

In a small corpus study, Gärtner (2009: 25) illustrates for Middle English (for the period between the years 1225 and 1450) that among 20 EIQs 17 examples are complements to the negation of the verb *know*.

In this connection, two questions remain open:

- ✓ What is special about the semantics of English *know* and Polish *wiedzieć*, which seem to have given rise to EIQs?
- ✓ Why do these predicates have to be under the scope of a negation operator?

3.2. MECs

A similar situation holds for Old Polish MECs. They bear the subjunctive morphology:

- [33] *Toć ubogi Krolewicz był, iże nie imiał*
 but poor King be.M.SG.l-PTCP that NEG have.M.SG.l-PTCP.AOR
 [_{MEC} *gdzie by swoją głowę podkłonił*]
 where COND.CL his head.ACC put.l-PTCP.3SG.M

'However, the King was so poor that he did not get any place where he could have passed the night.' (KTS, Ksw IV, 6: 26-7)

Interestingly enough, Modern Polish MECs cannot contain any phrases equipped with φ -features:

- [34] **Nie miał [_{MEC} gdzie by położył głowę]*
 NEG have.l-PTCP.3SG.M where COND.CL put.l-PTCP.3SG.M head.ACC
 Intended: 'There was no place where he could have passed the night.'

First MECs occur in Middle Polish:

- [35] *masz [_{MEC} od kogo śmierć cierpieć?]*
 have.2SG from whom dead suffer.INF
 'Are you going to suffer dead from anybody?'
 (PolDi, *RozmPrzem*)

What we have seen so far is that Modern Polish EIQs and MECs developed out from subjunctive complement clauses. In this connection, the question arises how we can accommodate this change into a formal framework.

Following Portner (1997, 2009) and Matthewson (2010), I assume that subjunctive clauses contain a modal operator that is, similar to modal verbs, evaluated against a modal base and further narrowed down by a conversational background (in the sense claimed by Kratzer 1981, 1991).

The type of the conversational background is restricted by the matrix predicate class and each sentence is analyzed with respect to a reference situation (r), a modal force (F), and a modal context (R). The operator [subj] gives rise to the modal assertion with appropriate modal force and modal context. Its flavors are relativized via the embedding predicate:

[36] [matrix verb [_{FocP} [_{Foc,SpecP} *wh* [[subj]] ^{r,F,R} = $\lambda p \lambda w_0$ [$K^{w_0}(x) \subseteq \lambda w_n(p)$ in w_n]]]]

As EIQs and MECs started embedding infinitives, the overt operator [subj] was replaced by a covert modal operator, [Op_{MOD}], giving rise to a modal reading of the embedded clause:

[37] [matrix verb [_{FocP} [_{Foc,SpecP} *wh* [[Op_{MOD}]] ^{r,F,R} = $\lambda p \lambda w_0$ [$K^{w_0}(x) \subseteq \lambda w_n(p)$ in w_n]]]]

4. Concluding remarks

In this talk, I examined selected distributional properties of embedded infinitival questions and modal existential *wh*-constructions in (the history of) Polish. It has been shown that although both patterns have a lot in common, they instantiate two different complement types.

Whereas MECs are mainly introduced by two existential predicates, *mieć* 'have' and *być* 'be', EIQs can be selected by different matrix predicate classes, except for verbs of disbeliefs, verbs of relevance as well as emotive predicates.

Regarding the focus movement of *wh*-operators, no restrictions can be observed with respect to EIQs, indicating that both argument and adjunct *wh*-phrases can be employed. In MECs the focus movement is disallowed with *dlaczego* 'why'.

Old Polish complement clauses headed by a *wh*-phrase are always [+finite], i.e. the embedded verbal head is always specified for φ -features. The shift from [+finite] to [-finite] happened in the transition from Old Polish to Middle Polish and can be seen as an expansion of the infinitive as a grammatical category/mood.

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