

Polar Questions in Finnish

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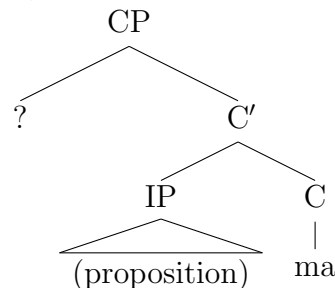
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1 Introduction

In this paper, I will address *-kO*, a second-position particle in Finnish that turns a declarative into a polar question. It seems that *-kO* attracts an element to its specifier, and I will hypothesize that this element is Focused. I will show that this hypothesis is consistent with Finnish judgments collected in a survey. I will then offer a suggestion as to how Focus can play a role in the semantics of polar questions.

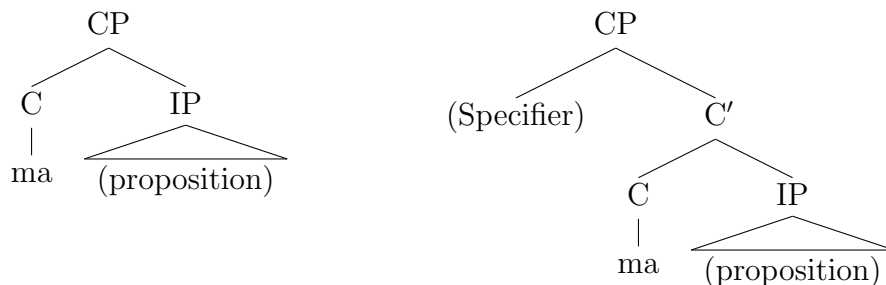
2 Polar Question Particles

Several languages have sentence-final particles that alter the meaning of the sentence. One example is *ma* in Mandarin, which turns a declarative sentence into a polar question (Yao and Liu (2006)). The fact that these particles always occur last in the sentence suggests that they are located in some very high functional head which appears on the right. It may be something like Force, but for now, I will call it C.



Notably, we would not be able to tell from word order whether the C head had attracted something to its specifier. If there was something in Spec,CP, it would appear first in the sentence. However, there may be nothing in Spec,CP, in which case the first element in the sentence would be the first element in the IP.

We might wonder about whether there is a language that has similar particles to Mandarin, but puts these particles in a head-initial phrase. In such a language, the particle would either appear first or second in the sentence, depending on whether its specifier position was filled.



Finnish has particles that encliticize to the first element in a sentence. One of these particles, *-kO*¹, turns the sentence into a polar question. So it looks like Finnish *-kO* does close to the same thing as Mandarin *ma*. Furthermore, the fact that an element precedes *-kO* in the sentence indicates that Spec,CP is filled. This paper will explore the meaning of *-kO* and its interaction with the meaning of the element in Spec,CP.

3 Finnish and *-kO*

Finnish creates polar questions with the morpheme *-kO*. *-kO* encliticizes onto the first constituent in the sentence, often a single word. To make a neutral polar question from a declarative, the verb is fronted and decorated with *-kO* (Hämäläinen (1990)). This is contrary to the typical Finnish word order, which is SVO. (1-a) is a declarative and (1-b) is the corresponding neutral polar question.

- (1) a. Joni osti kirjan.²
 Joni.NOM buy.PST.3SG book.ACC
 ‘Joni bought the book’
 b. Osti=ko Joni kirjan?
 buy.PST.3SG=KO Joni.NOM book.ACC
 ‘Did Joni buy the book?’

If the sentence is negated, then the negation is fronted rather than the verb. This may be for purely syntactic reasons. In both cases, the fronted element is also the element that hosts subject agreement.

- (2) a. Et tule.
 NEG.2SG come
 ‘You aren’t coming’
 b. Et=kö tule?
 NEG.2SG=KO come

¹The capital *O* in *-kO* indicates that the morpheme appears as either *-ko* or *-kö*, according to Finnish vowel harmony. There is nothing relevant about this particular example of vowel harmony, except that it indicates that *-kO* is indeed an enclitic.

²I will use the following abbreviations in glosses: 2 = 2nd person, 3 = 3rd person, ACC = accusative, ADESS = adessive, COP = copula, CTF = counterfactual, ELAT = elative, ILL = illative, NEG = negation, NOM = nominative, PART = partitive, PASS = passive, POSS = possessive, PST = past, PTCP = participle, SG = singular, WH = wh-item.

‘*Aren’t* you coming?’

It is possible to front an element that is not the verb. In fact, there are few categorial restrictions on which constituent is fronted. (3), including italics in the glosses, is taken from Karlsson (1983, 2008).

- (3) a. Tulet=ko?
come.2SG=KO
‘*Are you coming?*’
- b. Et=kö tule?
NEG.2SG=KO come
‘*Aren’t* you coming?’
- c. Autolla=ko tulet?
car.ADESS=KO come.2SG
‘*Are you coming by car?*’
- d. Kemiin=kö menet?
Kemi.ILL=KO go.2SG
‘*Are you going to Kemi?*’
- e. Saisin=ko sipulipihvin?
get.CTF.1SG=KO onion.beef.ACC
‘*Could I have* steak and onions?’
- f. Muuttaisit=ko Ruotsiin jos voisit?
move.CTF.2SG=KO Sweden.ILL if can.CTF.2SG
‘*Would you move* to Sweden if you could?’
- g. Menään=kö ulos?
go.PASS=KO out?
‘*Shall we* go out?’
- h. Sinä=kö sen teit?
you.SG.NOM=KO it.ACC do.PST.2SG
‘*Was it you* who did it?’
- i. Jo=ko olet korjannut autosi?
already=KO COP.2SG repair.PTCP car.2SG.POSS
‘*Have you repaired* your car *already?*’

In (3-a) and (3-b), the fronted element is the verb or the negation, as in the previous examples. In (3-c), the fronted element is a manner adverb. In (3-d), the fronted element is a locative adverb. In (3-h), the fronted element is the subject, which is normally left null through pro-drop. In (3-i), an temporal adverb is fronted. In all cases, the fronted element seems to correspond to Karlsson (2008)’s glosses.

This paper will attempt to determine what governs the choice of fronted element in polar questions such as in (3).

4 Focus Sensitivity in Polar Questions

Polar questions are basically questions that expect a yes/no answer, as in (4).

- (4) A: Did you go to the store today?
B: Yes, I went to the store today.
B': No, I did not go to the store today.

In (4), A asks a polar question. B can answer in one of two basic ways, corresponding to *yes* and *no*. The polar question makes reference to a proposition: ‘B went to the store today’. A *yes* answer indicates that the proposition is true in the real world, and a *no* answer indicates that the proposition is false in the real world.

In English, there is also a possibility of changing the meaning of a polar question by adding emphasis to a certain constituent using prosody, as in (5). *Italics* are meant to represent prosodic prominence.

- (5) a. A: Did you go to the store *today*?
B: No, I went to the store yesterday.
B': # No, I went to the movies today.
b. A: Did you go to the *store* today?
B: # No, I went to the store yesterday.
B': No, I went to the movies today.

In (5-a), A asks the same question as in (4), but this time stressing *today*. As a result, B’s *no* answer should reflect that the proposition ‘B went to the store today’ is true except for the part about ‘today’. B cannot give a *no* answer that reflects that the proposition is true except for the part about ‘the store’. Similarly, in (5-b), A stresses *the store*. B’s *no* answer should reflect that the proposition is true except for the part about ‘the store’. B’s *no* answer should not reflect that the proposition is true except for the part about ‘today’.

More formally, it appears that the phonological prominence in (5) indicates Focus. Following Rooth (1992), the proposition that is being questioned has a Focus semantic value $[.]^F$ that is generated by creating alternatives to the focused element. So in (5-a), the Focus semantic value of *you went to the store [today]_F* is the set of propositions of the form *you went to the store (at time) x*.

$$[\text{you went to the store } [\text{today}]_F]^F = \{\lambda w. \text{you went to the store } x \text{ in } w : x \in D_{\langle st \rangle}\}$$

B’s answer must then be in the Focus semantic value of the questioned proposition. Thus, *I went to the store yesterday* is alright, but *I went to the movies today* is unfelicitous.

In English, the Focus semantic value of a proposition (questioned or not) can be indicated with prosodic prominence on the Focused constituent. This is also true in Finnish (Rinno (2009)). We might guess that the choice of which element moves to the front in a Finnish polar question is also related to Focus. In particular, maybe it is the Focused element that

is moved. This would be counter to the typical word order in Finnish, in which theme (given material) precedes rheme (new material) (Nevis (1988)).

5 Finnish Question Surveys

I assume that Focus in Finnish does the same thing as Focus in English. The hypothesis, then, is that the moved element in a polar question in Finnish is Focused. In order to address this hypothesis, I compiled a set of surveys to be taken by native Finnish speakers. In each surveys, the speakers were given a context, and then a question. They then rated how natural the question was on a scale from 1 to 10, with 10 being totally natural *täysin luonteva* and 1 being totally unnatural (*täysin epäluonteva*).

Some polar questions were given in contexts where the moved constituent was Focused, as in (6).

- (6) a. Mari tietää, että Joni osti jotain Akateemisesta, mutta hän ei tiedä, mitä. Mari kysyy Jonilta:
'Mari knows that Joni bought something at Akateeminen, but she doesn't know what. Mari asks Joni:'
b. Kirjan=ko ostit Akateemisesta?
book.ACC=KO buy.PST.2 Akateeminen.ELAT
'Did you buy a *book* from Akateeminen?'

Other polar questions were given in contexts where another constituent was Focused, as in (7).

- (7) a. Mari näki Jonin kaupungilla eilen, mutta ei tiedä, mitä tämä puuhaili. Mari kysyy Jonilta:
'Mari saw Joni around town yesterday, but she doesn't know what he was up to. Mari asks Joni:'
b. Kirjan=ko ostit Akateemisesta?
book.ACC=KO buy.PST.2 Akateeminen.ELAT
'Did you buy a *book* from Akateeminen?'

As a control, there were also wh-questions in cooperative contexts like (8) and non-cooperative contexts like (9).

- (8) a. Mari tietää, että Joni osti jotain Akateemisesta, mutta hän ei tiedä, mitä. Mari kysyy Jonilta:
'Mari knows that Joni bought something at Akateeminen, but she doesn't know what. Mari asks Joni:'
b. Mitä ostit Akateemisesta?
WH.PART buy.PST.2 Akateeminen.ELAT
'What did you buy from Akateeminen?'

- (9) a. Mari tietää, että Joni osti kirjan, mutta hän ei tiedä, mistä Joni osti sen. Mari kysyy Jonilta:
 ‘Mari knows that Joni bought a book, but she doesn’t know where Joni bought it. Mari asks Joni:’
- b. Mitä ostit Akateemisesta?
 WH.PART buy.PST.2 Akateeminen.ELAT
 ‘What did you buy from Akateeminen?’

Questions were counterbalanced across three separate surveys, so that no participant saw the same question in two different contexts. A total of 28 native Finnish speakers completed these surveys.

If the hypothesis is correct, we would expect polar questions in cooperative contexts to be more natural than polar questions in non-cooperative contexts. Our assumption is that Mari would naturally ask a polar question for which the Focus semantic value reflects the piece of information she does not know and wishes to obtain.

6 Survey Results and Discussion

6.1 Results

Cooperative polar questions had an average score of 7, while non-cooperative polar questions had an average score of 4.6. However, polar questions with the verb in front showed less clean results than polar questions with other fronted constituents. Omitting the polar questions with the verb in front, cooperative polar questions had an average score of 6.9, while non-cooperative polar questions had an average score of 3.

Cooperative wh-questions had an average score of 8.1, while non-cooperative wh-questions had an average score of 4.5. Distribution of scores for non-cooperative wh-questions was bimodal, with certain question/context pairs getting very low scores and other question/context pairs getting higher scores.

6.2 Discussion

There is a noticeable difference in the average acceptability scores of polar questions in non-cooperative versus cooperative contexts, when the verb fronting cases are disregarded. This is consistent with the hypothesis that these contexts were in fact cooperative and non-cooperative, as we had hoped. This seems to support our guess that a focused constituent is fronted, if not the verb.

There are at least two possible reasons why polar questions with the verb fronted would sound more natural in non-cooperative contexts than polar questions with other constituents fronted. First, verb fronting is claimed to be the default way to make a polar question, and

so these questions may simply sound more natural in general than those in which other constituents are fronted. Indeed, some other polar questions, such as those in which the object is fronted, are claimed by native speakers to be fairly unacceptable, if they are presented out of the blue.

A second reason why polar questions with the verb fronted would sound more natural is because Finnish can also mark Focus with main sentence stress. The verb could be fronted, but the Focus would still be on the constituent that is the most prominent. Since the contexts and questions were presented visually, the participants could have easily imagined prominence in the appropriate place.

The fact that some non-cooperative wh-questions got very low scores and some got higher scores is probably because some presumed non-cooperative contexts were accidentally cooperative. An example is in (10).

- (10) a. Mari tietää, että Joni puhuu jotain vierasta kieltä erittäin hyvin, mutta hän ei muista, mitä kieltä. Mari kysyy Jonilta:
'Mari knows that Joni speaks some foreign language very well, but she doesn't remember which language. Mari asks Joni.'
- b. Kuinka hyvin puhut englantia?
how well speak.2SG English.PART
'How well do you speak English?'

(10) had an average score of 8.8, which indicates that it is very natural.

On the other hand, some non-cooperative wh-questions were actually non-cooperative. (11) is an example.

- (11) a. Mari tietää, että Joni meni tänään kouluun, mutta hän ei tiedä, millä Joni meni sinne. Mari kysyy Jonilta:
'Mari knows that Joni went to school today, but she doesn't know by what means Joni went there. Mari asks Joni.'
- b. Mihinkin menit autolla tänään?
WH.ILL go.PST.2SG car.ADESS today
'Where did you go today?'

(11) had an average score of 1.2, which indicates that it is very unnatural.

Considering that the cooperative wh-questions had a high acceptability score and that some of the non-cooperative ones had very low acceptability scores, I feel safe in concluding that our controls worked more or less as expected.

7 Semantics of Polar Questions with Focus

Finally, I will address the question of Focus and what it has to do with the semantics of polar questions. The asking and answering of a polar question can be seen in the following way (Romero and Han (2004)): A provides a proposition, which serves to divide the set of possible worlds into two sets: those worlds in which the proposition is true, and those worlds in which the proposition is false. In asking the question, A seeks to find out which set of worlds contains the actual world. If B says *yes*, then B indicates that the actual world is a world in which the proposition is true. If B says *no*, then B indicates that the actual world is a world in which the proposition is false.

For example, consider the discourses in (12).

- (12) A: Did you go to the store today?
B: Yes, I went to the store today.
B': No, I did not go to the store today.

A partitions the set of possible worlds into two sets: those in which B went to the store today, and those in which B did not go to the store today. In asking the polar question, A wants to know which partition the actual world falls into. If B answers in the affirmative, then B indicates that the actual world is one in which B did go to the store today. If B says *no*, then B indicates that the actual world is one in which B did not go to the store today.

Focus plays an additional, but similar role. Consider the discourse in (13).

- (13) a. A: Did you go to the store *today*?
B: No, I went to the store yesterday.

In (13), A provides the same partition, but in using Focus, A also divides up the *no* set into further partitions: worlds in which B went to the store yesterday, worlds in which B went to the store two days ago, etc. So, instead of a binary partition of the set of possible worlds, A provides a more complex partition, in which one partition is represented by *yes*, and the other partitions are all flavors of *no*. In a felicitous answer such as in (13), B not only says *no*, but indicates which of the *no* partitions the actual world falls in: the partition in which B went to the store yesterday.

Now consider the discourse in (14).

- (14) a. A: Did you go to the store *today*?
B': # No, I went to the movies today.

In (14), B gives a less felicitous answer. B says *no*, but fails to indicate which of the various *no* partitions the actual world falls into. B indicates that B went to the movies today. Indeed, there are possible worlds in all of the various *no* partitions in which B's statement is true. Thus, the set of worlds picked out by B's statement is not contained in any one *yes* or *no* partition. Therefore, B has simply not answered A's question.

Formally, let's consider the Focus semantic value of A's question. We saw earlier that it was as follows.

$$[\text{you went to the store } [\text{today}]_{\text{F}}]_{\text{F}} = \{\lambda w. \text{you went to the store } x \text{ in } w : x \in D_{(st)}\}$$

If *you* indicates B, then this is the set of propositions of the form 'B went to the store *x*' in which *x* is an adverb. It is possible that the correct formulation of the Focus semantic value of A's question restricts *x* only to past temporal adverbs. At any rate, propositions like 'B went to the store yesterday' and 'B went to the store two days ago' are in the Focus semantic value of A's question. These propositions partition the set of *no* worlds in the way I described informally above. Thus, we can formally derive this complex partition from the focus semantics of the question. Then, as with any other polar question, A wants to know which partition the actual world falls into.

There is a further question, which is whether A has a presupposition that B went to the store at some time. If so, then the set of possible worlds that A is considering is only those in which B went to the store. This means that there is no *no* partition in which B did not go to the store at all. If this presupposition is in place, then A would be surprised if B answered *No, I didn't go to the store*.

I suspect that this presupposition might be in place. The contexts in the Finnish survey were all specifications of the asker's knowledge. For example, a cooperative context for A would have been "A knows that B went to the store, but she doesn't know when." The fact that the questions were more natural in cooperative contexts indicates that the contexts in which the relevant presupposition is satisfied are better. However, further testing is needed to determine whether this is really a presupposition in the formal sense.

8 Conclusions and Implications

We saw that the Finnish 2nd-position question particle *-kO* may be the same sort of item as the Mandarin sentence-final question particle *ma*. Since *-kO* (probably) is the head of a head-initial phrase, we can see what is in its specifier. In Finnish, many different constituents are possible in the Spec,CP position, and the interpretation that follows is that the raised constituent is Focused. This was supported by a survey-based study. As far as we can tell, the role of Focus in Finnish questions is the same as the role of Focus in English questions, although English questions can only represent focus through phonological prominence.

Focus in polar questions was analyzed as a further partition of the set of possible worlds corresponding to a *no* answer to the polar question. The partition was straightforwardly established using the Focus semantic value of the proposition that was being questioned. The more complex partition put a restriction on what sorts of answers are acceptable. Acceptable answers specify unambiguously which of the various partitions the actual world falls into.

In this paper, I have discussed the role of Focus in polar questions in Finnish, but as far as I have been able to tell, the role of Focus in polar questions in English is the same. However, we have seen that what English can only do with phonological prominence, Finnish can do with either phonological prominence or movement. This means that Finnish may be useful in further studies of Focus in polar questions because movement is easier to search for in a corpus and easier to indicate in written form such as in a survey. Furthermore, the fact that *-kO* attracts the Focused element to its specifier suggests that the semantics of the one may interact with the semantics of the other. We would not have been able to establish this as easily in a language like English or Mandarin.

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