

## Evidential bias and polar questions – the division of labour in Hungarian

Cecília Sarolta Molnár, Beáta Gyuris and Katalin Mády

Research Institute for Linguistics, HAS, Budapest

**Introduction.** The paper discusses the results of two experiments that investigated the evidential bias properties of positive and negative polar question forms in Hungarian.

**Previous work.** The division of labour between forms expressing positive vs. negative polar questions (PPQ vs. NPQ) have been discussed by Ladd (1981), Büring and Gunlogson (2000), Farkas and Bruce (2010), Krifka (2017), Romero and Han (2004), Reese (2007), Sudo (2013), and van Rooij and Safárová (2003), among others. There is general agreement that the choice between a PPQ and an NPQ in a particular situation is based (at least) on the availability of evidence, the speaker’s beliefs, expectations stemming from the norm/rules or what the speaker desires, and the goals of the interaction. Büring and Gunlogson (2000) propose, based on English and German data, that PPQs and NPQs are licensed in the absence of “compelling contextual evidence” (CCE) for the proposition corresponding to the negative and the positive answer, respectively.

**Aims and hypotheses.** In the current study, which is the first of its kind on Hungarian, we followed the simplest possible design. We concentrated on the influence of CCE on the choice between PPQs and NPQs in contexts that did not to make reference to any type of previous speaker belief but were compatible with all (in view of Arnhold et al. 2016 and Roelofsen et al. 2013 who observed significant interaction between evidential and epistemic biases).

We investigated the choice between positive and negative PQs that can each be realized in terms of two string-identical but prosodically different form types, which are also string-identical to the corresponding declaratives (cf. Gyuris in print for further discussion): i) positive and negative polar *interrogative* form types marked by a final rise-fall tone, with a peak on the penultimate syllable, and ii) positive and negative *declarative* forms that are pronounced with a rise-fall tone on each stressed word, licensed in contexts where English ‘rising interrogatives’ (Gunlogson 2003) are used. Relevant examples are shown in (1):

- (1) a. *Esik az eső?*    b. *Nem esik az eső?*  
falls the rain        not falls the rain  
‘Is it raining?’        ‘Isn’t it raining?’

The following hypotheses were made:

*Hypothesis 1:* In a neutral context (i.e. one lacking CCE for any of the answers) the PPQ is preferred to the NPQ.

*Hypothesis 2:* In the presence of CCE for the positive answer, only the PPQ form is felicitous.

*Hypothesis 3:* NPQs are only felicitous if there is no CCE for the positive answer.

**Materials and methods.** The hypotheses were tested in two experiments using 2-alternative forced choice tests. The critical items were presented in writing, which masked the prosodic distinction between PQs expressed by interrogatives and declaratives. In both experiments there was one experimental factor with two levels, and two response types:

	<i>factors</i>	<i>responses</i>
<i>Exp. 1</i>	CCE for the positive answer vs. neutral context	PPQ vs. NPQ
<i>Exp. 2</i>	CCE for the negative answer vs. neutral context	PPQ vs. NPQ

Each item consisted of a context description, followed by a PPQ and an NPQ alternative that participants had to choose from, depending on which they would ask in the context. Two lists

were created according to a latin square design, including 16 experimental trials and 32 fillers. Data were collected via an online query form. Each experimental list was filled in by 21 to 45 participants (mean age 38.5 y.), totalling in 752 responses in Exp. 1 and 1168 in Exp. 2. Generalised mixed-effect models with random slopes were applied to the data, evidence as fixed effect and participant and item as random effects.

**Results:** PPQs were clearly preferred over NPQs (81% of all occurrences in the two experiments). Statistical analysis revealed that positive evidence given by the preceding context did not have an impact on the choice of question type ( $p > 0.1$  in both lists of Exp. 1). However, negative evidence in the context increased the preference for NPQs substantially as opposed to the neutral context condition ( $p < 0.001$  in both lists of Exp. 2), as shown below.

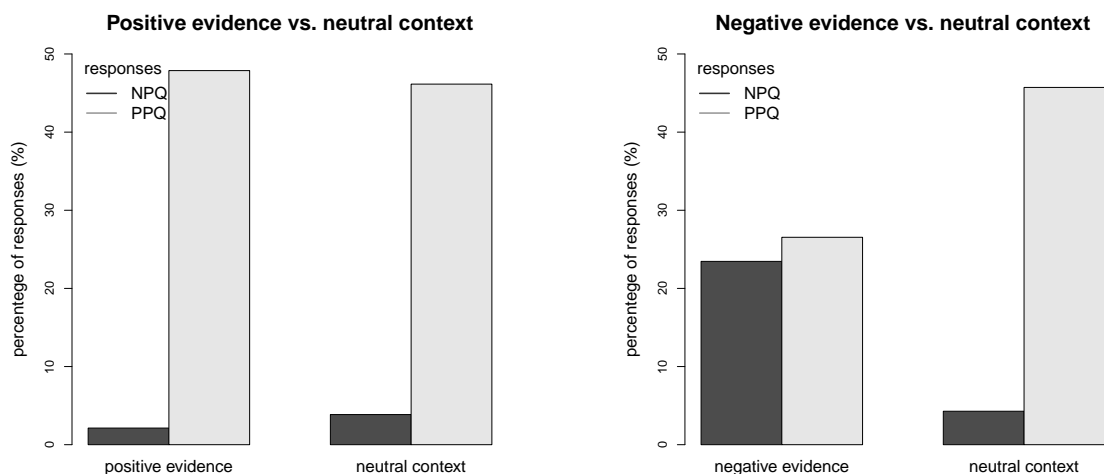


Figure 1: Percentages of preference for NPQs and PPQs with positive evidence vs. neutral context (left) and negative evidence vs. neutral context (right).

**Discussion.** All three hypotheses were confirmed by the data. Due to the fact that participants could interpret the forms in question as ‘rising declaratives’, the issue of the infelicity of positive forms in the face of positive evidence observed by Roelofsen et al. (2013) did not arise. The fact that in the face of negative evidence, more PPQs (26,54%) than NPQs (23,46%) were chosen comes as a surprise. The paper will discuss possible ways of accounting for it.

**References.** Arnhold, A. et al. (2016). Syntax and prosody of negative polar questions. *Ws. “Questions, Answers and Negation”*. ZAS Berlin. • Büring, D. and Gunlogson, C. (2000). Aren’t positive and negative polar questions the same? *Ms.* • Farkas, D. and Bruce, K. (2010). On reacting to assertions and polar questions. *JoS*. Gunlogson, C. (2003). *True to Form*. Routledge. • Gyuris, B. (in press) New perspectives on bias in polar questions. A study of Hungarian *-e*. *IRP*. • Krifka, M. (2017). Negated polarity questions as denegations of assertions. In Lee, C. et al. (eds.) *Contrastiveness in Information Structure* . . . Springer. • Ladd, D. R. (1981). A first look at the semantics and pragmatics of negative questions and tag questions. *CLS 17*. • Reese, B. (2007). *Bias in Questions*. Diss., U. Texas. • Roelofsen, F. et al. (2013). Positive and negative questions in discourse. *SuB 17*. • Romero, M. and Han, C.-h. (2004). On negative yes/no questions. *L&Ph 27*. • Sudo, Y. (2013). Biased polar questions in English and Japanese. In Gutzmann, D. and Gärtner, H.-M. (eds.) *Beyond Expressives*,. Brill. • van Rooij, R. and Safárová, M. (2003). On polar questions. *SALT XIII*.