De-exhausting Hungarian Focus: An Experimental Study

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**Introduction:** We present an empirical study on exhaustivity of Hungarian pre-verbal focus (preV Foc) that controls for the influence of context, something that has not been tested previously. We systematically delineate between Focus-Background (FB, narrow focus) and Topic-Comment (TC, wide focus) question environments to test whether they influence the exhaustivity inference that is said to come with Hungarian preV Foc. We thereby address the question of whether exhaustiveness in these focus constructions is semantic or can be influenced by contextual factors, such as overt questions. Recently, the perspective on preV Foc has changed – instead of primarily analyzing it as semantically exhaustive, the theoretical literature now explains the exhaustivity via a predication structure (see Kenesei 1986, É. Kiss 2006, 2016). Exhaustivity is not asserted, but rather presupposed, and therefore not-at-issue. In our experiment we aim to test this assumption.

**Method and Design:** We use a sentence-picture-verification task, which has been used to address exhaustivity (e.g. Pintér 2016, Gerocs et.al. 2014). Targets are preceded by two kinds of questions, each triggering a different kind of focus (narrow or wide), which make the exhaustivity inference [+/-at-issue]:

- a. [+at-issue] Who is wearing a scarf? [FB, narrow]
- b. [-at-issue] What do you know about the pig? [TC, wide]

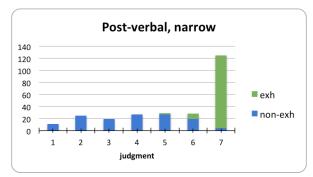
At-issue inferences are taken to address the current QUD, and the current QUD is typically marked by prosodic focus (Roberts 1996, Beaver & Clark 2008). In preV Foc, the stress lies on the focused part. In the case of TC structures, the backgrounded comment provides the at-issue information (much like in the case of TC-clefts, see e.g. Hedberg 1990, Delin 1992). Since a preV Foc answer to a question of the kind presented in b. above has the non-at-issue information in the focus (and vice versa for FB), we test whether there is an effect on the exhaustivity judgments depending on the status of the exhaustivity inference. In each trial, participants are first presented with a picture showing 4 individuals (a dog, a cat, a duck, and a pig) which have been introduced to them as guests at a costume party in the background story, followed by the audio-stimulus. The sentences come in the following conditions:

- (-preVfoc) The pig is wearing a scarf. (Felvett a malac egy sálat. )
- (+preVfoc) It is the pig that is wearing a scarf. (A MALAC vett fel egy sálat.)

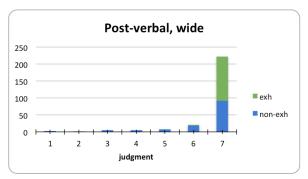
The pictures verify or falsify the exhaustivity implicature in the following conditions: Exhaustive: Only the pig wears a scarf, the other animals wear nothing, Non-exhaustive: The pig and two others wear a scarf. Participants are asked to judge how well the answers match the questions regarding the picture, using a 7-point Likert scale. The experiment was conducted using the online tool Inquisit (by milisecond). The items were pseudo-randomized between targets and fillers and randomized within targets and fillers. All participants see all items.

**Predictions:** A: Hungarian preV Foc is exhaustive in some way. Therefore, if the exhaustivity inference denoted in the target sentence is violated, e.g. via a picture that shows a violation of the exhaustivity (non-exh), participants are expected to judge the sentences low (1–3 on a 7- point scale). B: Hungarian preV Foc is not semantically exhaustive. In this case, the patterns for both question types should not be parallel. Wide Focus (TC) should always be exhaustive, as the referential identification of a set means the exhaustive listing of its members (see e.g. É. Kiss 2016).

## **Results and Discussion:**

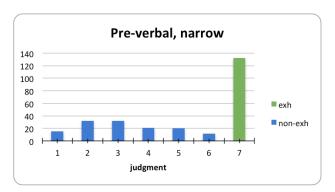


**Figure 1:** Who is wearing a cape? – The dog is wearing a cape.

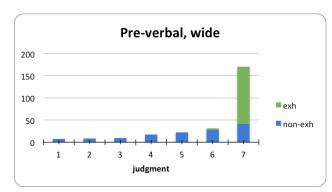


**Figure 2:** What do you know about the dog? – The dog is wearing a cape.

Statistically significant difference between the two context questions (wide vs. narrow in postV) in the non-exh condition (z.ratio = -13.468, p.value < .0001).



**Figure 3:** Who is wearing a cape? – It is the dog who is wearing a cape.



**Figure 4:** What do you know about the dog? – It is the dog who is wearing a cape.

Statistically significant difference between the two context questions (wide vs. narrow in preV) in the non-exh condition (z.ratio = -9.617, p.value < .0001) There is a weak interaction between the factors in the narrow focus (postV narrow, non-exh and preV narrow non-exh): z.ratio 2.726, p.value 0.0325, and a strong interaction in the wide focus (postV wide, non-exh and preV wide, non-exh): z.ratio 8.140, p.value < .0001. The results show that in both preV and postV Foc, sentences are judged higher when preceded by a wide-focus question. PostV and preV Foc behave similarly, which means that the kind of question (narrow/wide) has more influence on the exhaustivity than the syntactical construction (preV/postV). As an answer to questions with wide focus, preV Foc is accepted in [+exh] as well as [-exh] scenarios, while this is not the case with narrow focus. When assumed to be answering a narrow focus question, speakers reject preV Foc in [-exh] contexts, while it is accepted when it answers a wide-focus questions. The data also suggest that TC-focus in Hungarian is not exhaustive in every case. A non-focused answer to an overt wh-question is generally assumed to non-exhaustive (see e.g. É. Kiss 2016). Our results show that, when the new information is not focused, preV Foc is accepted in [-exh] contexts. Therefore, just like non-focused answers to wh-questions, a focused answer to an overt wh-question is also not exhaustive, as it is accepted in [-exh] picture environments. As the patterns for both questions are not parallel, our results suggest that Hungarian pre-verbal focus is not semantically exhaustive.

**References:** Gerőcs, M., Babarczy, A. and Surányi, B.: Exhaustivity in Focus: Experimental Evidence from Hungarian (2014); É. Kiss, K.: Discourse Functions: The Case of Hungarian. (2016); Pintér, L.: Preschoolers' interpretation of the focus particle csak 'only' in Hungarian. (2016)