Two Emprirical Studies On Exhaustivity Inferences & *It*-Clefts

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INTRODUCTION – In two joint studies we compare *it*-cleft exhaustivity to a range of phenomena with exhaustivity inferences—namely, exclusives, definite descriptions, and narrow focus—in order to provide empirical insight into the semantic-pragmatic status of exhaustivity in clefts. On the one hand there are the **semantic** accounts, which take exhaustivity to be coded in the cleft structure; on the other hand there is the **pragmatic** account, which derives exhaustivity as a generalized conversational implicature. Orthogonal to the semantic-pragmatic debate, and potentially a confound in prior empirical studies, is that cleft exhaustivity is considered to be **not-at-issue (NAI)**, i.e., not directly addressing the question under discussion (QUD); cf. at-issue (**AI**) exhaustivity in exclusives (Destruel et al. 2013, Mayol & Castroviejo 2013, Horn 2014). The results presented here from our first experiment on at-issueness are compatible with an analysis of exhaustivity in clefts, definite descriptions, and focus being not-at-issue, given significant differences in response patterns from the at-issue exhaustivity in exclusives; furthermore, clefts and definite descriptions patterned together, in contrast to focus. Forthcoming results from the second study on pragmatic-semantic inferences (currently being run) are necessary to disentangle the patterns for the not-at-issue inferences.

BACKGROUND – How to analyze the exhaustivity inference of *it*-clefts is the source of ongoing debate. Velleman et al. (2013) take clefts and **exclusives** (1b) to have the same exhaustivity semantics, varying only in the reversal of what the at-issue and presuppositional content is. On the other hand, Percus (1997) and Büring & Križ (2013) take *it*-clefts (1a) to be underlyingly **definite descriptions** (1c); in this view, the uniqueness of definites and the exhaustivity of clefts are modelled as semantic presuppositions in a parallel way. By contrast, Horn (1981, 2014) argues that exhaustivity in clefts is pragmatic enrichment, with parallels in other syntactic-phonological exhaustivity readings, e.g., **focus** exhaustivity (1d).

(1) a. **it-Cleft**: *It is Tom who put on a pullover.*   (exhaustivity: **NAI**, sem/prag**?**)
     b. **Exclusive**: *Only Tom who put on a pullover.*   (exhaustivity: **AI, semantic**)
     c. **DefDes**: *The person who put on a pullover is Tom.*   (exhaustivity: **NAI, semantic**)
     d. **Focus**: *TOM who put on a pullover.*   (exhaustivity: **NAI, pragmatic**)

Empirical research—often with the at-issue exhaustivity of exclusives as a baseline—seems to support a pragmatic approach, since cleft exhaustivity is **comparatively weak** and **more easily violatable** (Destruel 2012, Destruel et al. 2013, Sauer 2013, Washburn et al. 2013); however, failing to control for at-issueness may pose a potential confound to empirical research unrelated to the semantic-pragmatic debate. Destruel et al. (2013) argue that the *Yes, but...* test used by Onea & Beaver (2009) for Hungarian pre-verbal focus was sensitive to at-issue content only, while Washburn et al. (2013) test clefts in contexts in which at-issueness may be a critical factor. However, Mayol & Castroviejo (2013) and Horn (2014) have demonstrated that not-at-issue information behaves differently from at-issue inferences in many diagnostics (e.g., cancellation, projection, NPIs, etc.), and thus conclusive results will require controls for at-issue content.

In two sentence-picture verification experiments, we seek to address the following research questions:

- **Experiment I**: Is exhaustivity at-issue? PREDICTIONS: If exhaustivity is at-issue, **verifying the canonical meaning** of the sentences in (1) (i.e., *Tom put on a pullover*) should **not be sufficient** to make a truth-value judgment when other relevant entities have not been exhaustified. The at-issue exhaustivity of exclusives serves as a baseline (Beaver & Clark 2008, Velleman et al. 2013).

- **Experiment II**: Is exhaustivity semantic or pragmatic? PREDICTIONS: If exhaustivity is pragmatic and thus defeasible, **falsifying exhaustivity** for the sentences in (1) (i.e., *Someone other than Tom, e.g., Max, put on a pullover*) should **be inconsequential** for making a truth-value judgment. Focus exhaustivity will serve as a baseline. On the other hand, if exhaustivity

is semantic, **falsifying exhaustivity** should **be sufficient** to judge the sentence as false, controlled for by the definite description condition.

DESIGN – In both Exps. I and II, 32 German native-speakers are presented with 32 target auditory stimuli (all items were in German) for 4 sentence types: **clefts**, **definite descriptions**, **exclusives**, and **focus** (illustrated below for the sentence ***Tom put on a pullover***). At the start of each trial, participants looked at a computer screen with four covered boxes (⊞) while the target stimuli played in their headphones, after which they uncovered one-by-one with their mouse four illustrated characters in each of the boxes (*Max, Tom, Ben, Jens*). As the characters appeared on screen, each stated in written form which activity they did, and participants were asked to make a truth-value judgment as soon as enough information was available. Location 2 was crucial: In Exp I, **Loc 2 verified the canonical meaning** of the stimuli (e.g., Tom: '*I put on a pullover*'; see example trial below). In Exp. II, **Loc 2 falsified the exhaustivity inference** (e.g., Max: '*I put on a pullover*').

<u>**Auditory Stimuli**</u> (by Sentence Type)

> CLEFT: It is Tom who put on a pullover.
> DEFDES: He who put on a pullover is Tom.
> EXCLUSIVE: Only Tom put on a pullover.
> FOCUS: TOM put on a pullover.

<u>**Example Trial For The 4 Locations**</u>

> LOC 1: Max   '*I wore a hat.*'
> LOC 2: **Tom**   '***I put on a pullover.***'
> LOC 3: Ben   '*I tied on a scarf.*'
> LOC 4: Jens   '*I brought a jacket.*'

Loc 2: Judgment (1) Or Continue (0)?
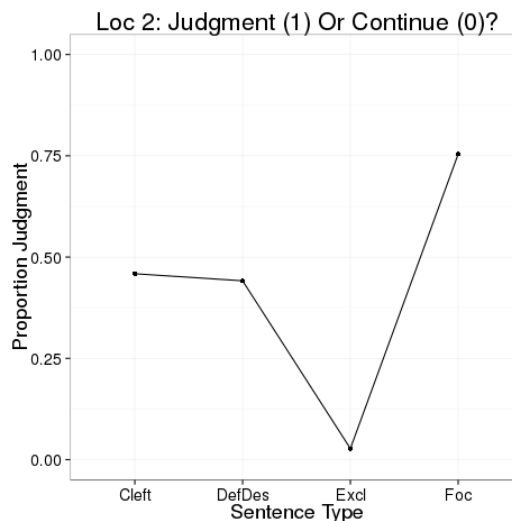
RESULTS – In Exp. I, at Location 2 there was a significant effect of sentence type on whether a truth-value judgment was made. Exclusives, the control condition, elicited a judgment only 3% of the time. By contrast, clefts and definite descriptions elicited a judgment 44% and 46% of the time, respectively, and focus 75% of the time (see graph); when a judgment was made, the sentence was consistently judged true. Results for Exp. II are forthcoming and will be presented at the workshop.

CONCLUSION – The results of Exp. I suggest that exhaustivity is not-at-issue for clefts, definite descriptions, and focus—in these conditions, it was often **not necessary** to check that the exhaustivity inference held, illustrated by the high proportion of judgments made upon verifying the canonical meaning of the target sentences at Loc. 2. By contrast, the exclusive control condition required further uncovering 97% of the time, which is expected when exhaustivity is at-issue. Despite the compelling results showing parallels between clefts and definite descriptions when compared to focus, Exp. I is not designed to distinguish different types of not-at-issue inferences in terms of their semantic-pragmatic status. Results for Exp. II (currently being run), which specifically tests the defeasibility of the exhaustivity effect, will be reported on at the workshop.

Selected References ● Büring, D. & Križ, M. (2013). *It's that, and that's it! Exhaustivity and homogeneity presupposition in clefts (and definites).* Semantics & Pragmatics. ● Destruel, E., Velleman, D. B., Onea, E., Bumford, D., Xue, J. & Beaver, D. (2013). *A Cross-Linguistic Study of the Non-at-issueness of Exhaustive Inferences.* ● Horn, L. (2014). *Information structure and the landscape of (non-)at-issue meaning.* OUP Handbook of Information Structure. ● E.Kiss (1998). *Identificational Focus versus information focus.* Language ● Velleman, D. B., Beaver, D., Destruel, E., Bumford, D., Onea, E., & Coppock, E. (2012). It-*clefts are IT constructions.* SALT Proceedings.