

### Cross-linguistic variation in pragmatics: Maximize Presupposition vs. Obligatory Implicatures in Ga (Kwa)

**Introduction** This paper presents an experimental investigation of the obligatory occurrence of additive markers in Ga (Kwa), an under-researched language spoken in Ghana, in comparison to previous studies on German. Experimental work in German has shown that the obligatory insertion of the additive particle *auch* ‘also’ is related to the mandatory occurrence of exhaustivity implicatures, captured by the principle of Obligatory Implicatures (**OI**) (Bade 2016). By comparison, data from Ga show that the presence of the additive particle is not related to this implicature but rather it is better accounted for by the principle of Maximize Presupposition (**MP**) (Heim 1991, among others). Thus, our results are in line with an analysis in which the obligatory marking of additivity has a different underlying mechanism in Ga compared to German, pointing to previously unattested cross-linguistic variation in pragmatics.

**Theoretical Background** Additives are obligatory when their presupposition is verified by the context, as in (1). The obligatory insertion of presupposition triggers has been explained by exploiting the MP principle, i.e., presuppose as much as possible (Heim 1991).

(1) a. John came to the party. b. Bill did, #(too).

Recent accounts of MP (Percus 2006, Sauerland 2007, Chemla 2008, Singh 2011) assume presupposition triggers such as additives to be on a scale of presuppositional strength: stronger triggers have to be used when their presuppositions are fulfilled in context, while weaker triggers implicate that the presuppositions of the stronger triggers do not hold. By contrast, OI (Bade 2016, based on Krifka 1999, Saeboe 2004) proposes that the obligatory insertion of additives, among others, follows from a contrastive implicature due to the mandatory insertion of a covert exhaustivity operator (Fox 2007) triggered by focussed material marking the Question Under Discussion (QUD) (Roberts 1996; following Beaver 2007). For the QUD *Who came to the party?*, the exhaustivity operator identifies *Bill came to the party* in (1b) as the most informative answer in the question set, and as such it entails all other true answers. The obligatory implicature in (1b) therefore conflicts with the context (1a), since *John came to the party* is not entailed by *Bill came to the party*. By inserting the additive, the sentence presupposes that another alternative is true, blocking exhaustivity.

For MP, no contextual factors beyond whether a presupposition holds are predicted to play a role in the insertion of a trigger. By contrast, according to OI the insertion of the additive should depend on whether an exhaustivity implicature is made prominent in the discourse: the stronger the exhaustivity, the more obligatory the additive. Previous studies on German have shown that the contextual factors for exhaustification align with the contextual factors for inserting the additive: that is, omitting the additive was less acceptable when the exhaustivity inference was strong (Bade 2016). In short, cancellation with an additive was a good indicator of how obligatory an exhaustivity operator was in German, a context effect not explained by MP.

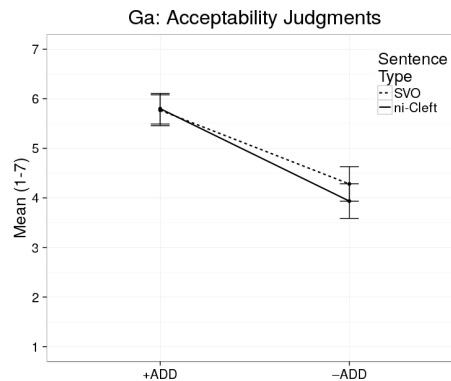
**Methods & Design** We tested experimentally the hypothesis that obligatory additives are related to the strength of exhaustivity in Ga (Kwa), and compare the results to previous experiments in German using a different methodology. Canonical SVO sentences in Ga have been shown to be less exhaustive than non-canonical *ni*-cleft sentences (Renans 2016). The particle *ni* introduces a structural bi-partition in which the exhaustively-interpreted focused material is to its left and the backgrounded/presupposed material is to its right. The hypothesis was tested using a 2x2 design fully-crossed: SENTENCE TYPE (2 levels: SVO, *ni*-CLEFT) and ADDITIVE (2 levels:  $\pm$ ADD). The task was a felicity judgment task on a pen-and-paper questionnaire with a scale from 1 (unacceptable) – 7 (acceptable). Each item first introduced a short context consisting of two sentences in

which the strength of the exhaustivity was manipulated through the factor sentence type. The critical sentence following the context was presented both with and without the additive *hu* ‘also.’ An example of all four conditions is provided below.

- (2) i. Tete ba shia. **E-ye banku. E-ye blɔfoŋme hu.** [SVO, +ADD]  
 T. came home 3.SG-eat banku 3.SG-eat pineapple also  
 ‘Tete came home. He ate banku. He also ate pineapple.’
- ii. Tete ba shia. **E-ye banku. E-ye blɔfoŋme.** [SVO, –ADD]  
 T. came home 3.SG-eat banku 3.SG-eat pineapple  
 ‘Tete came home. He ate banku. He ate pineapple.’
- iii. Tete ba shia. **Banku ni e-ye. E-ye blɔfoŋme hu.** [*ni*-CLEFT, +ADD]  
 T. came home banku PRT 3.SG-eat 3.SG-eat pineapple also  
 ‘Tete came home. It was banku he ate. He also ate pineapple.’
- iv. Tete ba shia. **Banku ni e-ye. E-ye blɔfoŋme.** [*ni*-CLEFT, –ADD]  
 T. came home banku PRT 3.SG-eat 3.SG-eat pineapple  
 ‘Tete came home. It was banku he ate. He ate pineapple.’

For the targets there were 24 lexicalizations distributed in a Latin square design: each participant saw 6 context-sentence pairs per condition with no repeat lexical items. Participants, all native-speakers of Ga, were students at the University of Ghana at Legon (female: 15, male: 10, NA: 1; mean age: 23). MP predicts a main effect of the factor ADDITIVE, in which the +ADD conditions (i./iii.) will be judged overall more acceptable than the –ADD conditions (ii./iv.), regardless of sentence type. By contrast, OI predicts an interaction in which the stronger exhaustivity inference in the *ni*-CLEFT condition will elicit a steep difference in the acceptability between the ±ADD conditions, not predicted for the weaker exhaustivity in the SVO condition: i.e., the relative difference between (iii) and (iv) will be greater than between (i) and (ii).

**Results** We ran a linear mixed effects analysis using the statistics program R. There was a significant main effect of ADDITIVE ( $\beta=1.47$ ,  $SE=0.20$ ,  $t=7.27$ , with a  $t$  above 2 indicating significance): namely, the +ADD condition was overall more acceptable than the –ADD condition, parallel for both SVO and *ni*-CLEFTS. The factor SENTENCE TYPE and the interaction of the two factors did not reach significance ( $t < 2$  in both cases). In short, in Ga the strength of the exhaustivity triggered by the two sentence types did not align with the obligatory occurrence of the additive, unlike previous results for German (albeit with a different experimental setup).



**Conclusion** The results of the experiment in Ga can be accounted for by making use of MP, which predicts a main effect for the factor ± ADDITIVE; by contrast, OI predicts an interaction, which was not found. This data contrast with an experiment in German, and comparing the results for both languages points to previously unattested cross-linguistic variation in pragmatics.

**References** • Bade 2015. *Obligatory Presupposition Triggers in Discourse*. PhD. • Heim 1991. Artikel und Definitheit. In *Semantik*. • Renans 2016. Modeling the exhaustivity effect of clefts: evidence from Ga (Kwa). Proceedings SuB 20.