

Propositional Attitude Reports: the Syntax of Presupposition & Assertion

Introduction. Propositional attitude verbs (e.g. *say, believe, know*) are known to be selective about the types of constructions that may occur in their complements. Following Emonds (1970), Hooper and Thompson (1973) identified a set of constructions that, while typically confined to matrix clauses, are also possible under a restricted set of verbs, e.g. (1). Other so-called “Main Clause Phenomena” [MCP] include speaker-oriented adverbs, V-to-C movement [C-V2], scene-setting adverbs, and VP-preposing. The study of MCP has been centered around two problems: (a) identifying the types of lexical/semantic-pragmatic *contexts* that license MCP; and (b) properly characterizing the syntactic and interpretive properties associated with the MCP *themselves*.

Theoretical background. The received view, since H&T, is that the availability of MCP is positively correlated with *assertion*, and negatively correlated with *presupposition*. Broadly, there are two schools of thought: On **positive accounts** (Wechsler 1991; Truckenbrodt 2006; Wiklund et al. 2009; Wiklund 2010; Jensen and Christensen 2013; Julien 2009, 2015; Woods 2016a,b, a.o.), “assertive” verbs such as *say* and *believe* are taken to select or license clauses with an extended C-domain, endowed with features pertaining to Common Ground [CG] management (Bianchi and Frascarelli, 2009), such as Topic, Focus, and Illocutionary Force (à la Rizzi 1997; Speas and Tenny 2003). Topicalization, C-V2 etc. are then *triggered* by features in the C-domain. On **negative accounts** however, “presuppositional” verbs such as *doubt, accept, regret, and know* select clauses headed by some definite or nominal element (à la Kiparsky and Kiparsky 1970). The nominal/D-layer in the embedded clause then effectively *blocks* the derivation of different MCP (e.g. Haegeman and Ürögdi 2010; De Cuba and Ürögdi 2010; Haegeman 2014; Kastner 2015). Further theoretical consensus however, has been hard to reach. We identify three key reasons for this.

Problem 1. Assertion and presupposition are themselves complex and multifaceted concepts (e.g. Stalnaker 1974). What aspects of these notions are relevant to the syntax? While some authors take the relevant dimension to be speaker/attitude holder commitment to the embedded proposition (p), others point to p being discourse new information. Yet others take factivity to be relevant.

Problem 2. The empirical and theoretical status of (doxastic) factives: do they *in fact* permit MCP, and are they predicted to do so, given the semantic underpinning of the syntactic theory (e.g. Simons 2007)? Negative accounts claim that *all* factives disallow MCP, while positive accounts take at least the doxastic factives (e.g. *discover*) to allow MCP.

Problem 3. Evaluating apparent disagreements about *specific* MCP. For instance, Bianchi and Frascarelli (2009) give (2) to show that English topicalization is licensed under emotive factives, in direct contrast to (1b). However, these judgments are subtle and potentially context-sensitive. Apparently conflicting empirical claims of this type may simply be due to a failure to control properly for potential pragmatic confounds. Moreover, theories about the interpretive constraints on MCP are typically based on acceptability judgments/distributional data for MCP under a small set of verbs, taken to represent larger *semantic classes* (see Problem 1). However, it is far from clear what the reality of these classes are, and which verbs actually belong to which class. Are (2) and (1b) *in fact* contradictory judgments, or do they represent some (unknown) dimension of variation?

Summary, problems. Without *comparable* data from different MCP across different languages, which controls for contextual and lexical properties of the relevant sentences, it is difficult to falsify and evaluate competing theoretical accounts. For instance, the current state of the literature is compatible with negative accounts being correct, in theory, about MCP being blocked in “presuppositional contexts”, but mistaken in their empirical assumptions about the doxastic factives. However, it may equally be true that negative accounts are right, about English topicalization, while positive accounts are right, about German C-V2.

Current Study. This talk presents results from a large-scale cross-linguistic experimental study, investigating the specific lexical and semantic-pragmatic constraints on four different MCP, across

three languages. We collected judgments of acceptability and judgments of interpretation, for the same exact same 40 sentences. Each of the 40 critical items (and the 32 fillers and controls) consisted of a unique verb+lexical content combination, set in exactly the same discourse context (Tab. 1). The study manipulated the following independent variables: verb and verb-class, matrix negation, type of MCP [C-V2; Topicalization; Scene-setting Adverbs; Speech Act Adverbs; Unmarked controls], and language [English; Swedish; German] (Tab. 2). Each subject thus saw the same 40 critical sentences involving 20 positive and negative verbs from five purported lexical classes, argued (along with negation) to differ with respect to the licensing of MCP. For an objective measure of the pragmatic dimensions of interest, the 40 critical items were independently tested in the unmarked control version for: speaker commitment to p; attitude holder [AH] commitment to p; likelihood that p is discourse novel. All judgments were given on a 9-point Likert Scale with the end-points marked. 912 participants took part in the study. The data was analyzed using linear mixed-effects models and model comparisons with ANOVA, predicting the acceptability of the different MCP-variants from verb identity and class, plus the three pragmatic factors.

Summary of Main Results. i. The three interpretive properties associated with the different verb classes were uniform across the four verbs from each class (illustrated with selected results from English in Fig. 1). ii. The three interpretive properties showed highly different distributions across the five predicate classes and under negation (Fig. 1). iii. The interpretive properties associated with the different verbs were stable across the three languages (illustration omitted). iv. The distribution of the different MCP were similar across the different languages in which they occurred (illustrated with selected results from English and German in Fig. 2). v. The different MCP differ from each other, both in their distribution across the different verb (types) and in terms of their interpretive predictors (Fig. 2). vi. We find a robust interaction of verb type and matrix negation, both for the interpretive properties of interest and the acceptability of the different MCP (Fig. 2). (For reasons of space, we omit the results of the statistical analysis here.)

Discussion. The results from this study present strong evidence that the term MCP does not denote a homogeneous class, neither in the distribution, nor in the semantic-pragmatic licensing conditions on different MCP. They allow us to falsify a number of popular theoretical claims: First, the robust interaction of matrix negation and predicate type is evidence against the hypothesis that the availability of MCP is due to local lexical selection for a particular type of clause (contra e.g. Wiklund et al. 2009; Kastner 2015). Second, factivity does not ‘block’ any MCP (contra Kastner 2015, and Haegeman and colleagues). Third, MCP are not licensed in ‘commitment to p’ contexts (contra e.g. Truckenbrodt 2006; Wiklund 2010; Julien 2015; Woods 2016b,a,b). It is plausible that the common denominator for different MCP is “CG management”. However, what the present results show is that this is a multifaceted concept that cannot captured in one single theoretical notion of *Illocutionary Force* or *Presuppositionality* that licenses or blocks MCP. For instance, our results suggest that C-V2 is licensed by Discourse Novelty (in line with Caplan and Djärv 2017) – a pragmatic notion which is tightly constrained by the type of verb. The other MCP, however, show different, much more subtle effects of the type of predicate, and no clear correlation with any of these interpretive factors. Leaving further discussion for the talk, we submit that the extent to which a given MCP is licensed by a particular verb is mutually dependent on the type of CG management involved in the particular MCP, and fine-grained interpretive properties of the verb and the particular discourse.

Selected References. Bianchi, Valentina, and Mara Frascarelli. 2009. Is topic a root phenomenon? Haegeman, Liliane. 2014. Locality and the distribution of Main Clause Phenomena. Haegeman, Liliane, and Barbara Ürögdi. 2010. Referential CPs and DPs: An operator movement account. Hooper, Joan, and Sandra Thompson. 1973. On the applicability of root transformations. Julien, Marit. 2015. The force of V2 revisited. Kastner, Itamar. 2015. Factivity mirrors interpretation: The selectional requirements of presuppositional verbs. Kiparsky, Paul, and Carol Kiparsky. 1970. Fact. Truckenbrodt, Hubert. 2006. On the semantic motivation of syntactic verb movement to C in German. Wechsler, Stephen. 1991. Verb second and illocutionary force. V2 in Scandinavian that-clauses.

- (1) a. [This book]_i, Mary read. (English Topicalization)
 b. John {**thinks/*regrets**} that [this book]_i, Mary read t_i.
 (Maki et al., 1999; Haegeman and Ürögdi, 2010; Haegeman, 2012; De Cuba, 2017; De Cuba and Ürögdi, 2010; Kastner, 2015)
- (2) I **am glad** that [this unrewarding job]_i, she has finally decided to give up t_i.

Tab. 1. Structure of experimental items:

- *Background*: Two friends, Jane and Sarah, run into each other. Jane says:
- *Target Sentence*: Guess what! I just talked to Mary, and **she said that Lisa lost her job!**
- *Questions to measure acceptability and interpretation of the embedded proposition*:
 - *Acceptability*: To me, this sentence sounds: Completely unnatural – Completely natural
 - *Discourse New*: It is likely – not likely that Jane and Sarah have previously talked about Lisa losing her job.
 - *Speaker Belief*: As far as Jane is concerned, Lisa lost her job. [No – Maybe – Yes]
 - *AH belief*: As far as Mary is concerned, Lisa lost her job. [No – Maybe – Yes]

Tab. 2. Independent variables:

- Verb Identity and Class (between-item)
 1. Speech Act: *say, mention, tell me, claim*
 2. Doxastic Non-factive: *believe, assume, reckon, guess*
 3. Response Stance (*accept, admit, doubt, deny*)
 4. Emotive Factive: *appreciate, resent, love, hate*
 5. Doxastic Factive: *discover, find out, notice, hear*
- Matrix Negation: Verb, ¬Verb (within-item)
- MCP and language (between-subject)
 1. C-V2 (Sw, Ger)
 2. Topicalization (Eng)
 3. Scene setting Adv (Sw, Eng, Ger)
 4. Speech Act Adv (Sw, Eng, Ger)
 5. Unmarked controls (Sw, Eng, Ger)
- Interpretation (between-subject)
 1. Speaker belief that p
 2. Attitude holder belief that p
 3. p as discourse new

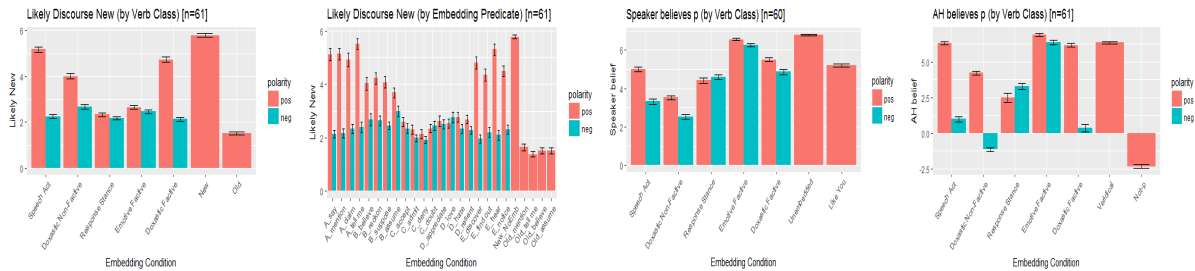


Figure 1: From left to right: Likelihood that p is Discourse New by Class; Likelihood that p is Discourse New by Verb; Speaker commitment to p; Attitude Holder commitment to p. Red = Positive; Green = Negated.

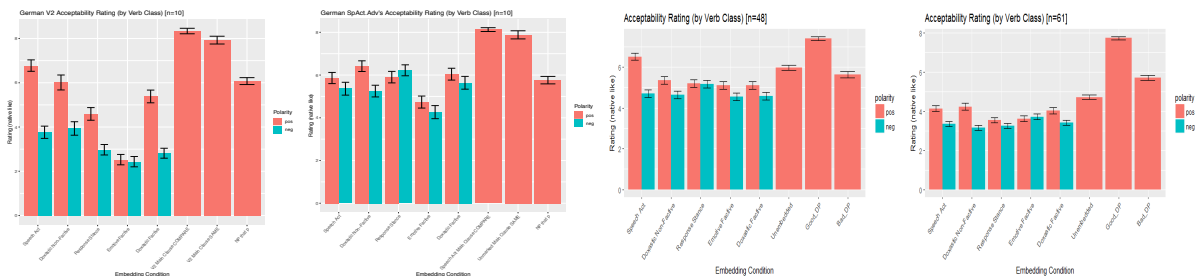


Figure 2: From left to right: German C-V2; German Speech Act Adverbs, English Speech Act Adverbs, English Topicalization.