Evaluating context-independent meaning in two English discourse particles

Background Linguistic meaning is divisible into two categories: context-independent and context-dependent (e.g. Gutzmann, 2014). Whereas the context-independent meaning of a lexical item is stable across contexts (it is considered lexically encoded), a context-dependent meaning is the product of a lexical item's use in a particular context. For many categories (e.g. discourse markers and connectives) there is often disagreement over what a word's meaning(s) is/are, as well as whether a given meaning is context-independent or context-dependent (e.g. see Ariel and Mauri [2019] for 'or'). We present an experiment designed to help determine whether language users understand the proposed meanings of two English discourse markers as being context-independent. We specifically ask whether, holding all contextual information steady, the audibility of a discourse marker's segmental information (i.e. its lexical information being interpretable) affects listeners' judgments on the extent to which speakers are demonstrating the meanings in question.

We focus on two discourse markers, *apparently* and *actually.* There is disagreement in the literature as to what these words mean and what they are used for (see e,g. Glougie [2016] for discussion). Our experiment is restricted to testing for two proposed dimensions of meaning: certainty and surprise. Considering both context-independent and context-dependent analyses, *actually* has been associated with speaker certainty and related notions such as being in the possession of reliable evidence for a claim (Biber & Finegan, 1988, Glougie, 2016, Sarfo-Kantankah & Ben Kudus Yussif, 2019). *Apparently* has been associated with speaker uncertainty (Mittwoch, Huddleston and Collins, 2002, Glougie, 2016, Carretaro and Zamorano-Mansilla, 2019). The uncertainty meaning of *apparently* is often argued to be a pragmatic function stemming from a core evidential meaning (e.g. Glougie, 2016). X and Y (2021) note that, like certain indirect evidentials in other languages, *apparently* can be used in contexts of speaker surprise (DeLancey, 2001). We therefore test three hypotheses: 1) Actually encodes speaker certainty; 2) Apparently encodes speaker uncertainty; 3) Apparently encodes speaker surprise.

Methods All utterances containing *apparently* (n=24) were extracted from PhonBank's video-taped Providence corpus (Rose & MacWhinney, 2014, Demuth, Culbertson & Alter, 2006). Utterances were all naturally produced by adults in speech around children (this study is part of a larger study on acquisition). For each *apparently* token, the utterance containing *actually* that occurred closest in time was also extracted. The resulting 48 short video clips formed the regular condition stimuli set. For a second condition, the target word was low-pass filtered to remove segmental information; only prosodic information was audible. The rest of the utterance was unaltered, meaning the only difference between the conditions was whether the target word was identifiable. 294 participants were recruited from linguistics classes at a North American university. They received a course credit for participating. After exclusions (technical issues, n=48; non-native English speakers, n=74; diagnosed hearing disability or hearing loss, n=8), 164 participants were included in the analysis. The design was between subjects. Participants were asked to watch each video clip and answer the question "How surprised does the speaker seem?" or "How certain does the speaker seem?" (with 7 being "extremely surprised/certain" and 1 being "extremely unsurprised/uncertain"). Because there were two questions asked of each clip, participants answered a total of 96 questions each.

Predictions We predicted that, for *apparently*, participants in the regular condition would rate speakers as seeming more surprised and less certain than in the low-pass filter (LPF) condition. For *actually*, we predicted that participants in the regular condition would rate speakers as seeming more certain than in the low pass filter condition. If the expected differences are found,

then encoded lexical information (context-independent meaning) must be at least partly responsible for listeners' beliefs about a speaker's level of certainty, uncertainty or surprisal. If no differences are found between conditions, this would suggest that either these words do not have these meanings at all, or that these meanings are not encoded in the words themselves, but are merely aspects of the larger contextual conditions in which these words tend to be used—which were the same in both conditions.

Results 2 tailed, paired t-tests on mean token ratings in the two conditions indicate that for *apparently*, participants in the regular condition rated speakers as seeming more surprised than participants in the LPF condition (REG m=4.33(1.32); LPF m=3.93(1.28); p<0.001). (Interestingly, this difference was also true of *actually* test items, where a difference in surprise ratings was not expected. In fact, the surprise use finds some support in the literature, e.g. Greenbaum [1969].) Participants also rated speakers as seeming less certain in the regular condition than in the LPF (REG m=3.76(1.41); LPF m=4.23(1.29); p<.0001). For *actually*, participants in the regular condition rated speakers as seeming more certain than in the LPF condition (REG m=4.89(1.37); LPF m=4.62(1.42); p<.01).

Conclusion Participants' ratings on how surprised or certain speakers seemed were affected by whether or not the target word was identifiable. All results were in the directions predicted. Although there are many proposed meanings for these words, the results suggest the words do have the hypothesized meanings (perhaps among others): native English speakers may consider surprise and uncertainty part of the context-independent meaning of *apparently* and may consider certainty part of the context-independent meaning of *actually*. At minimum, it would seem that lexically-encoded meaning interacts significantly enough with the surrounding context to alter participants' understanding of a speaker's level of certainty or surprise.

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