Fluency or accuracy: What matters when correcting errors in spoken dialogue?
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When speakers make errors, they must coordinate the tasks of interrupting erroneous speech and of replanning the utterance. While early accounts (Levelt, 1983) have suggested that speakers interrupt themselves immediately upon realising their error and then commence replanning, it has been suggested more recently that these processes may run in parallel (Hartsuiker & Kolk, 2001). With replanning no longer seen as contingent on interruption, speakers may be able to make a strategic decision about when to interrupt themselves (Tydgat et al., 2011). Fluency could be maintained by continuing to produce (possibly erroneous) speech for as long as possible while a repair is planned; on the other hand, accuracy could be improved by interrupting the erroneous signal as quickly as possible, introducing a (possibly disruptive) pause for planning.

Here we present an analysis of 3020 self-corrected errors produced by 64 speakers in conversations from the Map Task Corpus (Anderson et al., 1991). In particular, we investigate the locus of the interruption (whether mid-word or word-final), and the length of any silent pause that precedes a resumption. If speakers attempt to maintain fluency while executing repairs, they should only interrupt themselves mid-word if they have already completed replanning and can resume immediately. This suggests that the pauses which follow mid-word interruptions will tend to be shorter than those following word-final interruptions. The fluency account also predicts an interaction between the locus of the interruption and the severity of the error to be repaired; with major errors being those where the original utterance is abandoned entirely. For word-final interruptions, the difference between pauses following major and minor errors should be greater than those following mid-word interruptions, as replanning is likely to take longer following major errors. Although evidence in support of these predictions has been reported by Seyfeddinipur et al. (2008), the accuracy account—which predicts pauses may be longer following mid-word interruptions—has also been supported by Hartsuiker et al. (2008).

In the Map Task Corpus dialogues, we found a main effect for location of interruption, with the pauses following word-final interruptions consistently longer than those following mid-word interruptions. We also found an interaction with severity of repair, with the effect of severity greater for word-final interruptions. Our findings also provide the first known evidence of a linear relationship between the length of a pause and the length of the utterance repaired, suggesting that speakers may retrace their way back through the utterance as part of planning their repair. Importantly for the fluency account, this was found to interact with the location of completion, with the effect of utterance length having a greater effect following word-final interruptions. Taken together, our findings strongly support the view that when they produce errorful speech, speakers strive to maintain fluency, continuing to produce words in the existing speech plan until a repair has been planned (or there are no further words to utter).

References

