

## Online response to perspective taking in narratives

We test the hypothesis that the most prominent referent is more likely to be the perspectival center of a discourse compared to competing referents. We report an eye-tracking experiment ( $n=40$ ) in the visual-world paradigm on the processing of perspective taking in narratives. We use free indirect discourse (FID) as the main indicator of a shift in perspective. FID, defined as “mode of narration where we can listen to a protagonist’s thought” (Eckardt, 2014), can only be processed correctly if the reader is able to take the protagonist’s perspective. Characteristics of FID are: interjections, judgmental statements, exclamations, discourse particles, rhetorical questions and a shift in deixis with respect to the discourse referent. For example, in “*Last Friday John wanted to go to a concert. Right before he got to the concert hall he checked his pockets. Oh no, had he really left the tickets at home? Now it was too late!*” the rhetorical question as well as the exclamation can be easily understood as expressing a thought of John because of the interjection *Oh no* and the deictic expression *now*. FID has been a topic of interest for literary scholars as well as linguists, but there is very little empirical research on the processing of FID. Also, lately there has been growing interest on the impact of perspectives in language comprehension, e.g. the interface of Theory of Mind and pragmatics; however, the shift in perspective in narratives has not yet been studied through online experiments.

In our experiment we test processing of perspective taking in FID. Test items (see (1) below) consist of short stories introducing one highly prominent protagonist with a proper name in subject position ( $R1=Martin$ ) and a second minimally prominent referent with an indefinite article in object position ( $R2=florist$ ). In the third sentence we compare an utterance in FID (cond-a) involving at least three indicators — interjection, a deictic expression and a discourse particle, to a sentence of similar content in narrative style (cond-b). Along with  $R1$  and  $R2$  we show pictures of a distractor mentioned in the story and an unmentioned distractor. The hypothesis predicts more gazes on  $R1$  in cond-a compared to cond-b as a result of the change towards  $R1$ ’s perspective triggered by the FID. As we use several different indicators of FID, we expect the effect to show as the third sentence (S3) unfolds. Figure below shows the number of gazes recorded on  $R1$  from the onset of the critical S3. We modeled the gazes during the first 3400 milliseconds (the mean duration of S3 across items) of S3 using the growth curve analysis (interaction of two experimental conditions with all the terms of a fourth-order orthogonal polynomial as fixed effects). We observed significantly higher number of gazes on  $R1$  in cond-a (significant effect on the intercept term). There was also a significant effect on each of the other three terms of the polynomial indicating a clear effect of perspective taking between cond-a and cond-b. Our findings suggest that more gazes on the most prominent referent in cond-a are due to the ascription of authorship of the utterance in FID. We regard these results as a proof of concept for further research employing the visual-world paradigm for investigating prominence status and perspective taking in language processing.

(1) Martin fragte einen Floristen an einem Stand nach einem Blumenstrauß. Der Geruch der Blumen lockte jedoch einige Wespen an.  
[cond-a] Oh, jetzt bloß ganz ruhig stehen bleiben, um die Mistviecher nicht zu reizen.  
[cond-b] Um Wespen nicht zu reizen, sollte man ruhig stehen bleiben.  
Doch bald darauf flogen sie schon wieder weg.

*Martin asked a florist at a stall for a bouquet. The smell of the flowers attracted some wasps.*

[cond-a] *Oh, better stand still now, not to aggravate those beasts.*

[cond-b] *As not to aggravate wasps one better stand still.*

*Soon they flew away.*

