DISCOURSE-BASED EFFECTS IN COMPREHENSION: WHEN HEARERS EXPECT NEW INFORMATION

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The distribution of information in the discourse is affected by information status; for example, it has been shown that there is a strong tendency amongst many languages to place old information before new information in a sentence (see Arnold et al. 2013 for a review). In English, this ‘information shuffling’ can be achieved through the use of non-canonical syntax, such as passives and inversions. Our focus here is on English Existentials (e.g., There’s a fly in my soup). In this construction, the post-verbal noun after “There is” (e.g. ‘fly’) introduces information that the speaker believes to be new to the hearer (Prince, 1992).

We investigated how quickly listeners use this kind of information during real-time language processing (see also Kaiser & Trueswell 2004 in Finnish). Can hearers anticipate that new information will be mentioned as soon as they encounter an existential, even before they have heard the noun?

Experiment: Thirty-three monolingual English speakers participated in a visual-world eye-tracking study. They heard sentences like ex.(1,2) while viewing images like the example shown.

(1) A nurse was discussing new procedures with the doctor. There was a sad patient with a broken leg in the reception area, waiting for her turn. [target]

(2) A nurse was discussing new procedures with the doctor. That day a sad patient with a broken leg was in the reception area, waiting for her turn. [control]

On targets, the first sentence introduced two out of the three pictured characters (e.g., nurse and doctor). This was followed by a second sentence, which was an Existential (ex.1) or a control sentence initiated by a temporal expression (ex.2). (Fillers involved images with differing numbers of characters, and not all of them were mentioned in the auditory stimuli.)

Predictions: If listeners are sensitive to the discourse properties of the existential construction, they should start to look at the new, unmentioned patient even before hearing the noun ‘patient.’ In the control condition, no such anticipatory looks are expected.

Results. We analyzed the proportion of looks to the unmentioned entity during a 400ms time window starting at the onset of the existential (“There was…”). Crucially, this window ends before the onset of the NP. We find that during this time, participants are significantly more likely to look at the new character in the Existential than the Control condition (p<0.05, see figure). Thus, even before hearing the noun, participants are able to predict that the upcoming noun will refer to a new, previously unmentioned entity.

As a whole, our results indicate that hearers expect new information to be mentioned immediately following an Existential construction, and can use this information rapidly during real-time language processing to guide their expectations about who will be mentioned next. This points to a rapid integration of syntactic and discourse/pragmatic information.

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References

