

Predicting the f***ing word: an eye-tracking study on negative expressive adjectives

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Theoretical work on negative expressive adjectives such as “fucking” (Table 1) has argued that these convey a speaker-oriented attitude, which constitutes a separate, expressive, dimension of meaning (Potts, 2005, Harris & Potts, 2009, Gutzmann, 2019, i.a.). As such, their meaning is computed outside of compositional meaning construction. Their relative syntactic flexibility supports this perspective: they can be attached to different constituents keeping an identical expressive meaning (see the final two sentences in Table 1) (Frazier et al., 2014).

Recent experimental work has shown that expressives convey emotional and social content (Donahoo & Lai, 2020). However, it’s unclear what it means for an expressive to be *speaker-oriented* from a language processing perspective: Can comprehenders automatically and rapidly retrieve a speaker’s perspective via the expressive, or is this a delayed and effortful inferential process? Further, what purpose does their syntactic flexibility serve?

In the current study, we address these questions by claiming that negative expressives serve the specific comprehender-oriented purpose of reducing processing effort. To investigate this, we tested two novel hypotheses using an eye-tracking, Visual World Paradigm (VWP). We hypothesized that (i) comprehenders can automatically and locally use expressives as indices of a speaker’s perspective in order to anticipate an upcoming referent - but only if they have knowledge of the speaker’s perspective. We also hypothesized that (ii) an expressive’s syntactic flexibility allows for even earlier anticipation of a referent, representing an added cognitive benefit.

DESIGN We created a VWP where 60 native Italian speakers^[30f;MeanAge=24.72;SD=7.04] read a discourse context. They then heard a spoken utterance completing the discourse (see Table 1) while visualizing four images (Figure 1). Participants had to then select the correct visual referent and answer a subsequent comprehension question. In 10 critical items, the context introduced two potential referents (Target and Competitor images, Figure 1). The discourse either introduced a speaker’s negative attitude towards the Target referent, or had a neutral statement (Factor ATTITUDE, levels ‘neutral’ vs. ‘supportive’). The spoken utterance contained a negative expressive that either modified the target referent (In-Situ) or the subject of the sentence (Ex-Situ) (Factor: EXPRESSIVE POSITION, levels: In-Situ vs. Ex-Situ), resulting in a 2X2 design. Participants also saw 18 filler trials, which had different combinations of number of referents and speaker’s intentions in order to prevent participants from developing a strategy.

ANALYSIS We calculated proportions of looks to the images, time-locked to the beginning of the disambiguating word (*Cappello*, in target sentence of Table 1). The purpose was to investigate any anticipation effects by analyzing four 500 ms. time-windows: three prior to the onset of the disambiguating word, and one after (Figure 2). A preference for the target image in regions 1-3 would suggest that anticipation occurred. We fitted maximal LMEMs to each region using the log-ratio of looks to target image divided by looks to competitor image as dependent variable. Positive log-ratios represent a preference for the target image. We included (treatment contrast-coded) ATTITUDE and EXPRESSIVE POSITION and their interaction as predictors.

RESULTS *InSitu*- and *ExSitu*-supportive conditions both showed an anticipation effect in region 3 (both positive and significantly different from 0), supporting hypothesis (i). The *ExSitu*-Supportive condition was positive and significantly different from zero in all four regions. This suggests an earlier anticipatory effect brought on by the early appearance of the expressive, in line with hypothesis (ii). Neutral conditions were only positive in region 4, suggesting no anticipation. They were also significantly different from both *InSitu*- and *ExSitu*-supportive conditions in region 3. This suggests that knowledge of the speaker’s perspective is crucial to understand the meaning of a negative expressive, in line with hypothesis (i).

CONCLUSION Our study proposes a pivotal role for negative expressives during language processing: They aid in anticipatory sentence comprehension by automatically indexing a speaker’s perspective. Their syntactic flexibility is a tool that can be used to ease processing load by allowing for anticipation to take place even earlier in comprehension. This amounts to a unique processing benefit for comprehenders.

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|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Elena e Martino vogliono acquistare un regalo di compleanno per una loro amica. Martino vuole acquistare un cappello. Elena and Martino want to buy a birthday present for a friend of theirs. Martino wants to buy a hat | |
| CONTEXT | NEUTRAL | SUPPORTIVE |
| | A Elena piace tanto fare shopping e vorrebbe acquistare uno zaino Elena loves shopping and would like to buy a backpack | Elena ripete più volte che il cappello è bruttissimo e vorrebbe invece acquistare uno zaino Elena repeats several times that the hat is very ugly and would like to buy a backpack |
| | Quando suona alla porta il corriere, Elena dice: When the delivery man rings the door, Elena says: | |
| 🔊 | IN SITU | EX-SITU |
| | Il corriere ci ha portato il cazzo di cappello The delivery man brought us the fucking hat | Il cazzo di corriere ci ha portato il cappello The fucking delivery man brought us the hat |

Table 1 Example critical item in all four conditions. Original in Italian with English translation. The context was presented in written form, while the target sentence was played through speakers.



Figure 1 Example images. Top right and bottom left represent Target and Competitor images respectively. viewing pattern before and after hearing disambiguating word

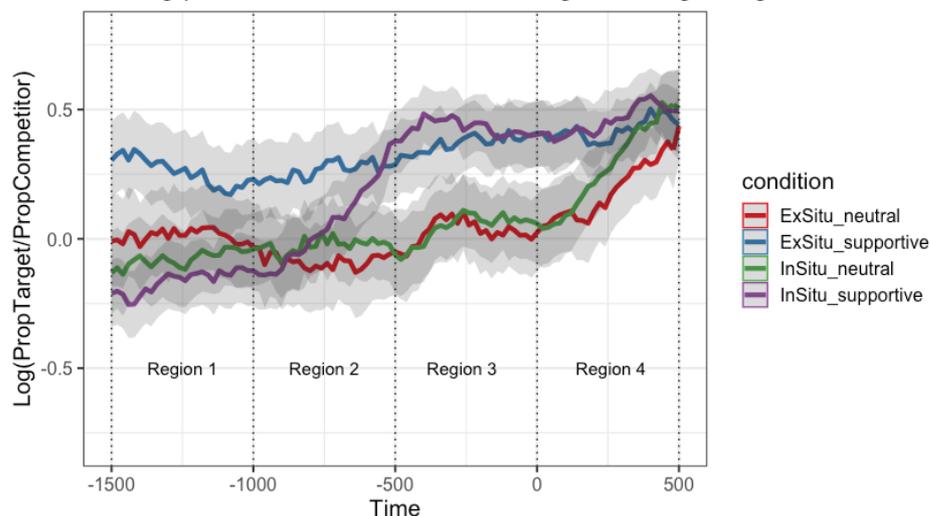


Figure 2 Log-gaze probability ratios of looks to target to looks to competitor, time-locked to the disambiguating word ('hat', in the example shown in Table 1). Values above zero signify a preference for the target picture. Gray ribbons are confidence intervals.

References

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