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Title:

Strong expectations cancel locality effects: Evidence from Hindi

Abstract:

Expectation-driven facilitation (Hale, 2001; Levy, 2008) and locality-driven retrieval difficulty (Gibson, 1998, 2000; Lewis & Vasishth, 2005) are widely recognized to be two critical factors in incremental sentence processing; there is accumulating evidence that both can influence processing difficulty. However, it is unclear whether and how expectations and memory interact. We first confirm a key prediction of the expectation account: a Hindi self-paced reading study shows that when an expectation for an upcoming part of speech is dashed, building a rarer structure consumes more processing time than building a less rare structure. This is a strong validation of the expectation-based account. In a second study, we show that when expectation is strong, i.e., when a particular verb is predicted, strong facilitation effects are seen when the appearance of the verb is delayed; however, when expectation is weak, i.e., when only the part of speech "verb" is predicted but a particular verb is not predicted, the facilitation disappears and a tendency towards a locality effect is seen. The interaction seen between expectation strength and distance shows that strong expectations cancel locality effects, and that weak expectations allow locality effects to emerge.

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