How much harder are hard garden-path sentences than easy ones?

Grusha Prasad
Johns Hopkins University, Baltimore, Maryland, United States

Tal Linzen
Johns Hopkins University, Baltimore, Maryland, United States

Abstract

The advent of broad-coverage computational models of human sentence processing has made it possible to derive quantitative predictions for empirical phenomena of longstanding interest in psycholinguistics; one such case is the disambiguation difficulty in temporarily ambiguous sentences (garden-path sentences). Adequate evaluation of the accuracy of such quantitative predictions requires going beyond the classic binary distinction between ”hard” and ”easy” garden path sentences and obtaining precise quantitative measurements of processing difficulty. We report on a self-paced reading study designed to estimate the magnitude of the disambiguation difficulty in two temporarily ambiguous sentence types (NP/Z and NP/S ambiguities). Disambiguation was more than twice as hard in NP/Z sentences as in NP/S sentences. This contrasts with the predictions of surprisal estimates derived from current broad-coverage language models, which lead us to expect a smaller difference between the two.