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Adaptation to Unexpected Word-Forms in Highly Predictive Sentential Contexts

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Abstract: Readers and listeners rely upon previous experience to generate predictions about multiple aspects of an unfolding linguistic signal. Error signals elicited by unexpected input feed forward to higher-level units, serving in the adjustment of expectancies and thus increasing the precision of predictions in that context. When a syntactic ambiguity is resolved with a dis-preferred continuation, a garden-path effect occurs, but decreases in magnitude as a function of exposure to the unexpected event. But, can readers adjust lower-level expectations about word forms in contexts that do not permit overt higher-level ambiguity? We monitored eye-movements as participants read expected or unexpected words in highly-constraining sentences. Half of items contained the predicted word and half contained a plausible but unexpected word. Adaptation—in the form of decreased fixation duration on unexpected words—was observed on first fixation duration but nowhere else, suggesting that adaptation occurs at different levels of a multilayered processing system.