

EYE MOVEMENT CONTROL IN READING III

BENNETT LECTURE THEATRE 2 - 15:30- 15:50

Reader Targeting of Words is Guided by the Distribution of Information in the Lexicon

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Skilled readers typically identify words more accurately when fixating them slightly left of the central character, the so-called optimal viewing position. There are two main explanations for this effect, which are not mutually exclusive. The first claims that the optimal viewing position lies left-of-center due to the particular constraints of the human perceptual system. The second explains the effect in terms of how words compete with each other; specifically, the beginnings of words tend to be more unique and therefore more informative about word identity, making a left-of-center fixation more advantageous. We explore this effect through the lens of a Bayesian cognitive model and two experiments using artificial lexicons in which we can carefully control how information is distributed across wordforms. Our results suggest that readers are sensitive to the distribution of information, targeting different positions depending on whether the language they learned is more informative on the left or right. Furthermore, readers do not simply target the position that contains the most information; rather, they target the position that will yield the best view of the word overall, accounting for both information distribution and the asymmetry of the human visual span.