Auditory distraction during semantic processing: Data and a model

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Abstract: An experiment is reported demonstrating how free recall of visually-presented, categorically-related lists of words is disturbed by the presence of auditory distracters which subjects were instructed to ignore. Data show that auditory distracters from the same category as the to-be-recalled items produce the most disturbance to recall and result in the most intrusion errors. Additionally, the points at which these intrusion errors occur differ dependent upon whether recall is written or spoken. A variant of the SIMPLE (Scale Invariant Memory and Perceptual Learning) model (Brown, Neath & Chater, 2007) is fit to these data and the modifications necessary to achieve this fit are discussed. It is concluded that intrusion errors are not random but are dependent upon a weighted combination of the semantic and temporal overlap between the to-be-recalled and to-be-ignored material in semantic processing tasks and free recall