

# **Characterizing the peripheral bumps of serial dependence in visual working memory**

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## **Abstract**

As the contents of working memory are updated over time, the features of consecutively stored representations are blended to smooth our visual experience. This phenomenon has been termed serial dependence. The amount of blending that occurs between representations is tuned as a function of their similarity, and drops off when stimuli are far apart in feature space. Interestingly, when stimuli are very different, their representations in memory are repelled, rather than blended together. This negative effect manifests as peripheral bumps in the tuning curve of serial dependence, when stimuli are at opposite extremes of feature space. In the present work, we characterize the dependence of the peripheral bumps on the memory delay period and the inter-trial interval. We present preliminary evidence that the peripheral effect is not strictly tied to the central, positive effect. Serial dependence may comprise two dissociable mnemonic biases, with distinct neural mechanisms and functional roles.