Endogenous attention optimizes spatial resolution depending on task demands
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Background
In texture segmentation task constrained by spatial resolution...

- "Endogenous attention flexibly adjusts spatial resolution depending on task demands" [Carrasco, Loula, & Ho, 2006]

Methods
Selective adaptation to 2nd-order spatial frequency - carriers noise (4cpd) modulated by 2nd-order vertical modulation

- "Endogenous attention: Exogenous attention automatically increases spatial resolution (e.g., improving signal-to-noise ratio)
- Or does attention benefit performance at all eccentricities through means (i.e., eccentricity)? If yes, how?"

Results
Spatial resolution

- "What mechanism underlies the benefit of endogenous attention across all eccentricities?"
- "Can attention flexibly affect spatial resolution depending on task demands (i.e., eccentricity)? If yes, how?"
- "Or does attention benefit performance at all eccentricities through means other than resolution modification? (e.g., improving signal-to-noise ratio)?"

Predictions
ADAPTATION (NEUTRAL)

- "Attention can either increase or decrease sensitivity of small filters"

ADAPTATION x ATTENTION

- "Attention can affect performance through resolution-independent mechanisms - attentional benefit throughout eccentricity for the 3 adaptation conditions" [Yeshurun & Carrasco, 2000]

References