Exploring Localized Attentional Interference in the Context of a Multiple Location RSVP Task.
Garrett Swan and Brad Wyble
Pennsylvania State University

Hypothesis: LAI interferes with T2 perception at lag 1 when T2 appears within approximately 2° of T1

Experiment 1: Parametrically measure the extent of an attentional window

Methods: Replicated Visser et al. (1999) paradigm with increased eccentricities (1-8)

Results:

Conclusions: Increased stimuli size relative to eccentricity increases peripheral perception.

Experiment 2: Attempt to replicate Visser et al. (1999)

Methods: White stimuli on dark background

Results:

Conclusions: Failure to fully replicate Visser et al. (1999). Found lag 1 sparing with spatial offset.

Experiment 3: Compensating for decreased perceptual acuity in the periphery

Methods: n = 75

Results:

Conclusions: Increased spatial offset conditions

Experiment 4: Minimize potential practice effects from block design.

Methods: CE and CC appear within-block.

Results:

Conclusions: In a within-block design, LAI was not found with spatial offset at lag 1.

Experiment 5: Emulating Mounts (2000) which used a salient T1

Methods: Red T1

Results:

Conclusions: Saliency influenced the perception of peripheral targets, but did not decrease proximal target performance.

General conclusions:

- Experiments 1-5 no LAI with spatial offset at lag 1
- Experiment 2 failed to replicate Visser et al (1999)
- Experiment 3 found lag 1 sparing and Attentional blink in periphery
- Experiments 4-5 demonstrates that expectation did not produce LAI with spatial offset at lag 1
- Experiment 5 demonstrates that saliency did not produce LAI at lag 1

Discussion:

- In RSVP, categorically defined targets are not sufficient to produce LAI
- Lag 1 sparing is not limited by immediate spatial proximity
- In RSVP, salient targets are not sufficient to produce LAI

Future Directions:

- Add perceptual noise to paradigm to find the boundary condition of LAI

References:


Shih, Shui-I. 2000. Recall of two visual targets embedded in RSVP streams of distractors depends on their temporal and spatial relationship. Perception & Psychophysics, 62(7), 1348-1355