



Spatiotemporal Factors in Audiovisual Rate Discrimination

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Motivation

We explored audiovisual rate discrimination with & without conflicting spatial & temporal context cues.

Are we sensitive to:

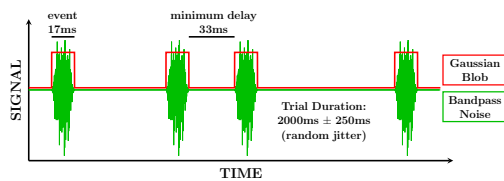
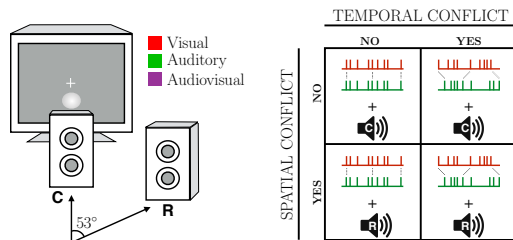
- Temporal alignment (perhaps not¹)
- Spatial alignment (unstudied)

When does multisensory integration occur?

- Perceptual stage: sensitive to context cues.
- Decision stage: ignore context cues.

Rate-Discrimination Task

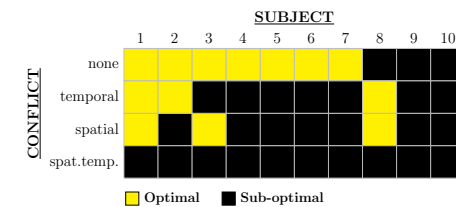
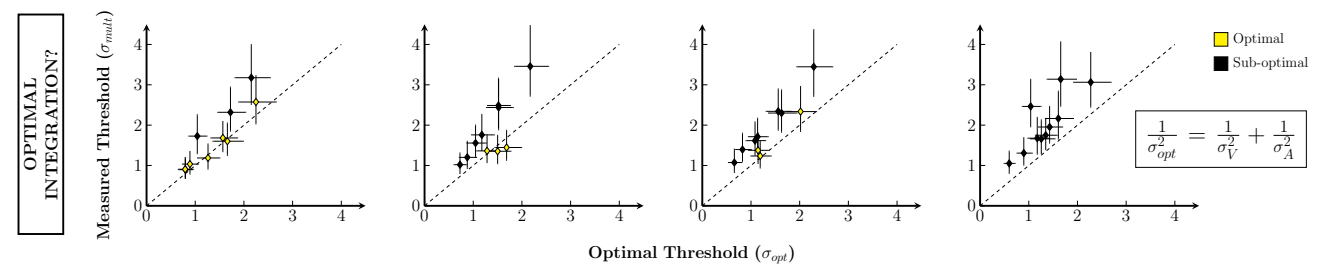
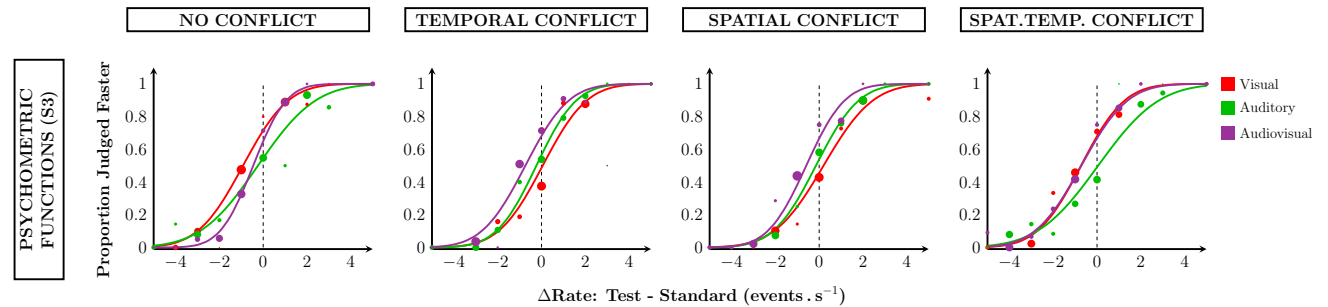
"Was the test stimulus slower or faster than the standard stimulus?"



Trial Sequence:

(S) Standard Stimulus: 8 events/s (T) Test Stimulus: 3–13 events/s

Results



Summary

Subjects showed considerable sensitivity to temporal and spatial context.

30% showed a ventriloquist-like effect.

30% ignored temporal correlation (100% did in ref. 1).

0% optimally combined cues with full spatiotemporal conflict.

This suggests multisensory integration at the perceptual stage.

References: [1] Raposo *et al.*, J. Neuro., 32:11 (2012)

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