COMPETITION BETWEEN GROUPING PRINCIPLES

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COMPETITION IN PERCEPTUAL ORGANIZATION

COMPETITION IN PERCEPTUAL ORGANIZATION

COMPETITION BETWEEN GROUPING RULES

Previous studies that focused on competing grouping rules examined the conditions that lead to dominancy of one rule over the other in conscious perception, but did not inquire what happened to the organization that was not chosen.
*(e.g., Ben-Av & Sagi, 1995; Han, 2004; Han et al., 2001; Hochberg & Hardy, 1960; Hochberg & Silverstein, 1956; Kubovy & van den Berg, 2008; Kubovy et al., 1998; Quinlan & Wilton, 1998).*
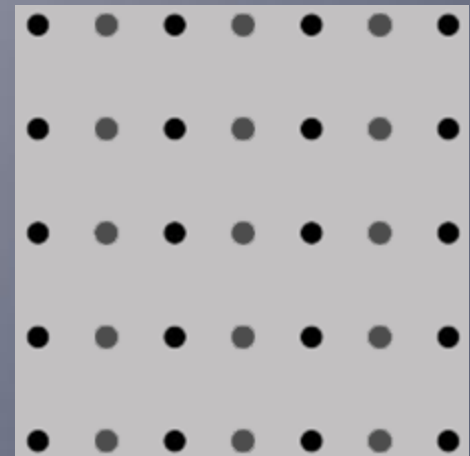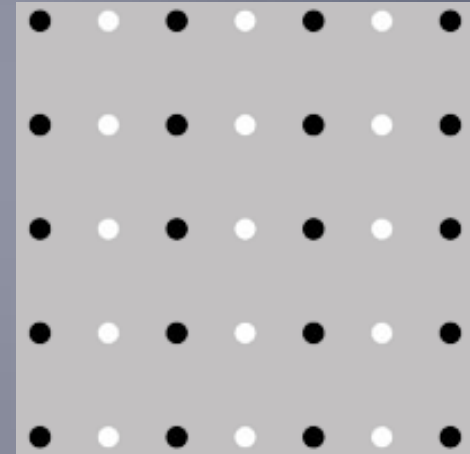
OUR HYPOTHESIS:

- *When more than one organization is possible in the visual scene, all the possible representations are constructed and one of them is chosen for conscious perception while the others are suppressed.*

- *This hypothesis stands in contrast to an existing model, which argues for a 'winner-take-all' approach, predicting that only the dominant organization is represented, and hence, ultimately reaches conscious perception (e.g., Kubovy & van den Berg, 2008).*
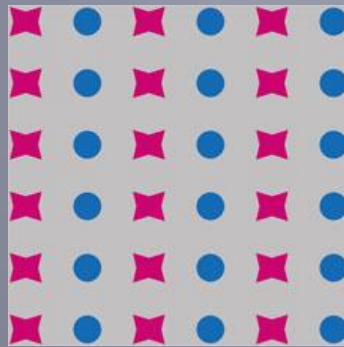
THE PRIMED-MATCHING PARADIGM:

Fixation
500 ms

Prime
40, 90, 190, 390, 690 ms

Test Pair
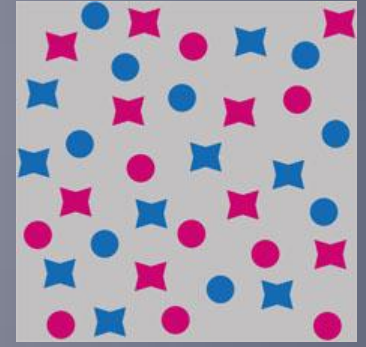**Until response**

Time
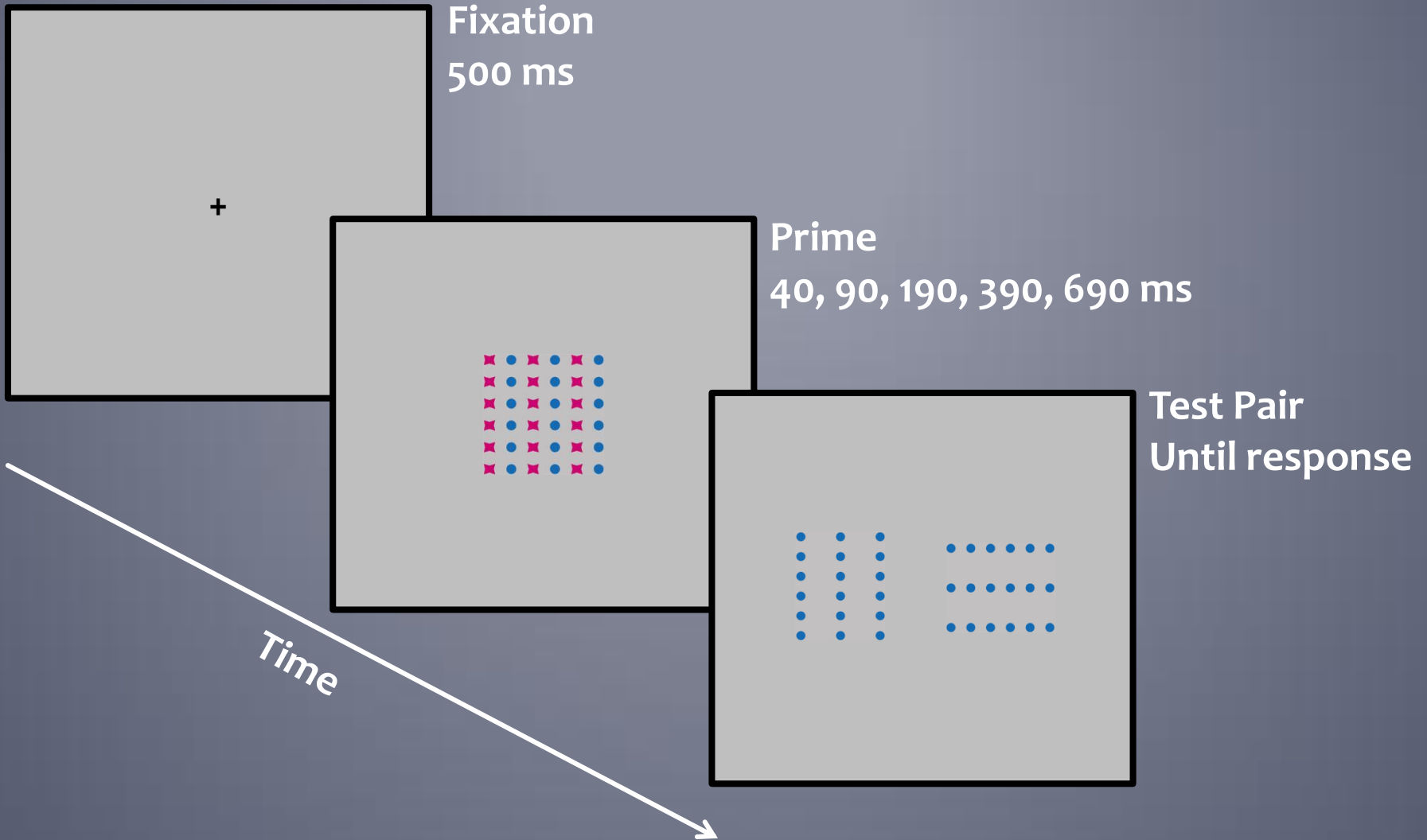
TESTING FOR PRIMING EFFECTS WITH AND WITHOUT COMPETITION:
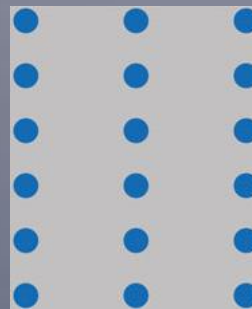
Prime Types:

No competition   Competition   Neutral
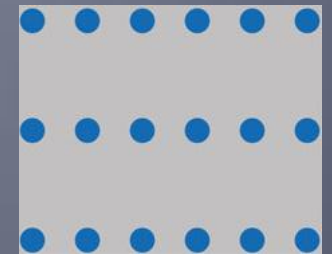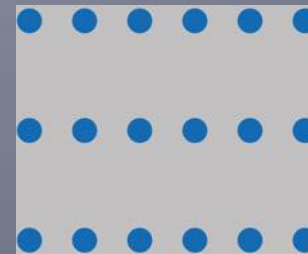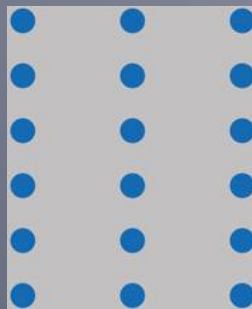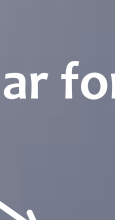
Similar for color   Similar for shape

"Same" Test pairs:

Similar   Dissimilar

MEASURING PRIMING EFFECTS:

- *The RT difference between "same" responses to <u>dissimilar</u> test pair versus <u>similar</u> test pair minus the baseline RT difference to these test pairs in the neutral condition:*
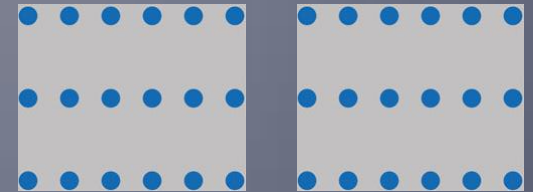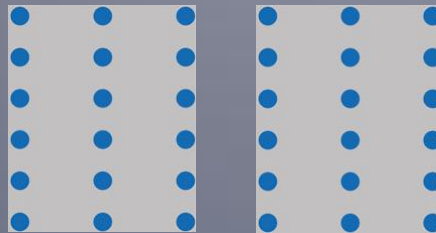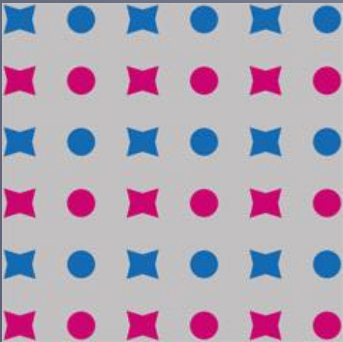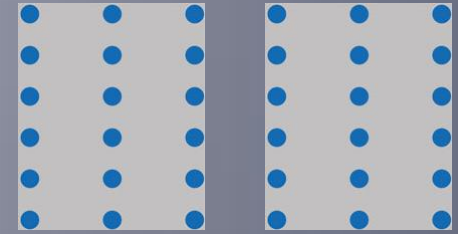
$$[RT(Dissimilar - Similar)/Prime] -$$
$$[RT(Dissimilar - Similar)/Neutral]$$

Dissimilar   **Similar**
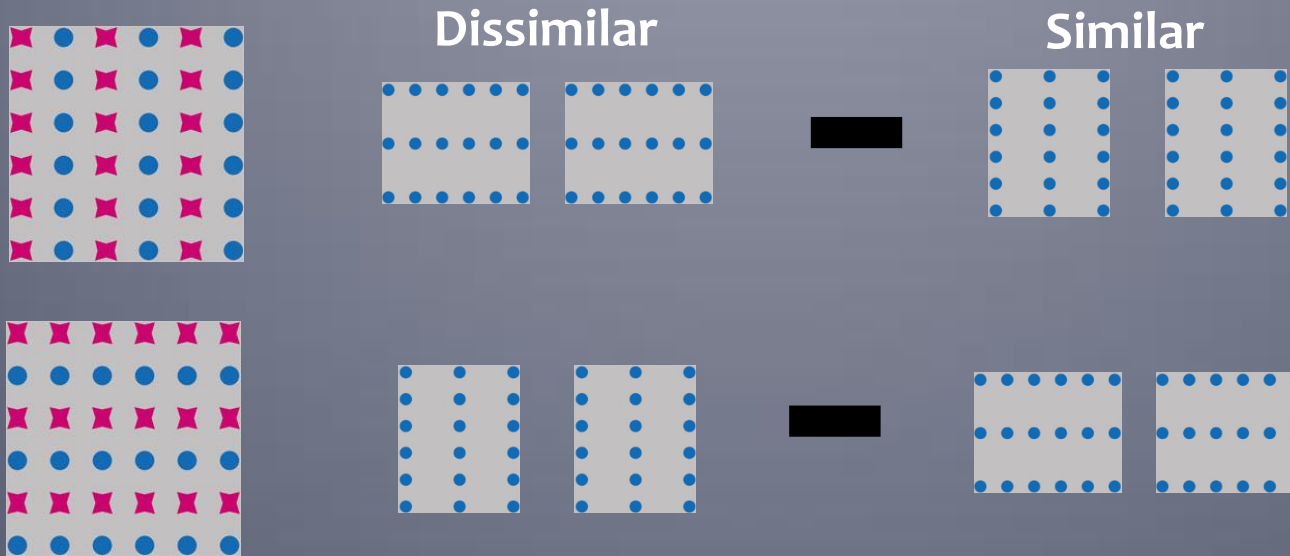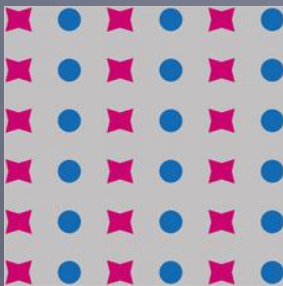
MEASURING PRIMING EFFECTS FOR COMPETING GROUPING RULES:
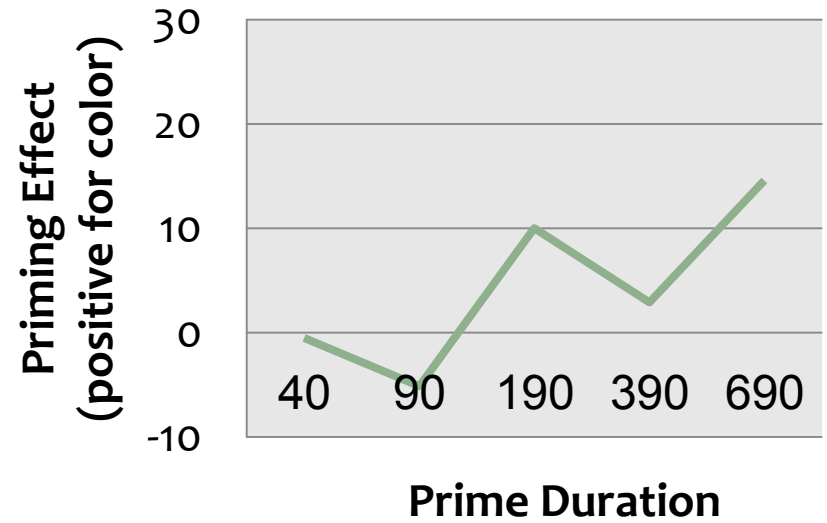

Dissimilar for color

Similar for color

OUR RESULTS SO FAR:

THANK YOU!