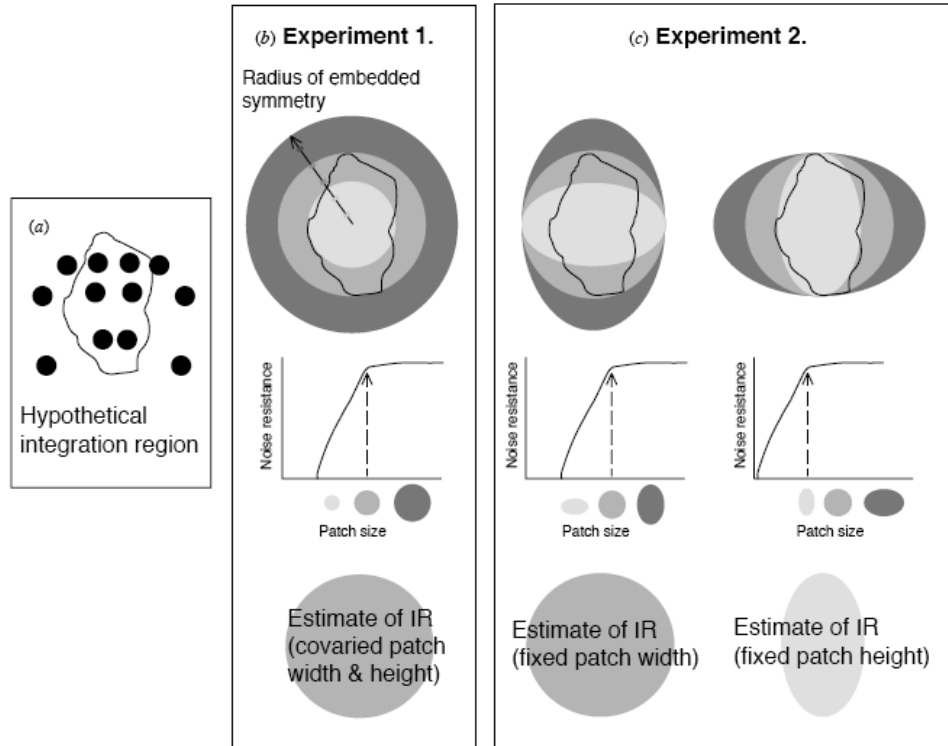


Visual Perception: Bilateral Symmetry Detection and Possible Implications

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Auditorium of the Center for Imaging Science

This work has shown that symmetry is much harder to detect when noise is present, except for patterns centered at fixation, suggesting that symmetry may not be used in early stages of image segmentation. Eye movement analysis during symmetry detection is being used to add to our body of understanding of the subject. Recent advances in modeling symmetry detection will be discussed in addition to experimental findings.

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Abstract

Bilateral symmetry is a property of many natural and manufactured objects. It has been suggested that detecting symmetry in a scene could direct attention to potentially interesting targets, be useful for encoding objects, and aid in object recognition. The perception of bilateral symmetry has been studied extensively, with the general finding that symmetry about a vertical axis is detected faster and more accurately than symmetry at other orientations. I will review these findings, and focus on the detection of symmetry when it is presented in isolation or embedded in noise. This work has shown that symmetry is much harder to detect when noise is present, except for patterns centered at fixation. This research suggests that symmetry may not be used in early stages of image segmentation, in contrast to what has been proposed in the past. I have also begun to examine eye movements during symmetry detection as another means of assessing bilateral symmetry salience. Recent advances in modeling symmetry detection will be discussed in addition to experimental findings.

Speaker Bio

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