Gestalt psychologists showed that convexity is a figural cue.

Convexity Context Effects: convex regions were increasingly perceived as figure as the number of alternating display regions increased. 1

Convexity Context Effects (CCEs) were obtained only with uniformly colored concave regions. • This allows concave regions to appear complete behind convex objects.

Symmetry Context Effects?

NO: Not when displays have articulated borders. 2 • Even though they preserve the symmetry/asymmetry of the outermost regions.

YES: When displays were enclosed with a rectangular frame-like border.

Hypothesis: Frame-like border allows completion of asymmetric regions into a surface behind symmetric objects.

Do Articulated Borders Prevent Convexity Context Effects?

D: Yes: CCEs were not found with articulated border displays.

Grp 1
B/W balanced, L/R balanced, 100ms unmasked, N=24/group

*6 region displays with articulated borders were significantly less likely to be seen as figure than 6 region displays with rectangular borders.

Conclusion

Context Effects are NOT obtained with articulated border displays. Why?

Articulated Borders are perceived as intrinsic to the outermost regions of the display and prevent the interpolation of concave regions into a continuous background. • All regions appear to be on the same plane.

Context Effects are obtained ONLY with frame-like displays. Why?

Rectangular outer borders are perceived as extrinsic to the outermost regions of the display and allow a 3-D interpretation of the display.

Figure-Ground Cues • Do not operate locally • Context dependent

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References