

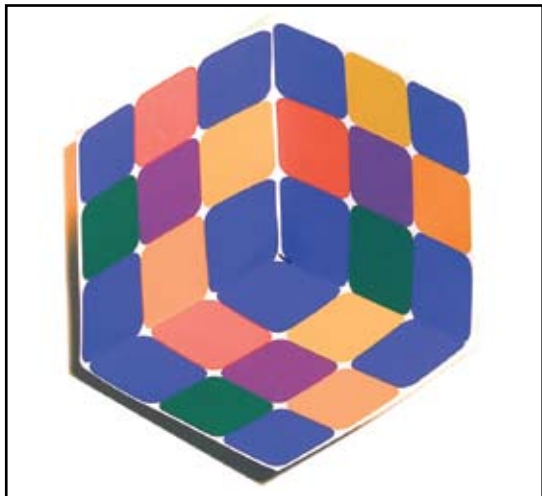
Project LITE

Light Inquiry Through Experiments

<http://lite.bu.edu>

Ambiguous Tri-Wall

One of the included figures, when constructed as discussed below, is a perspective rendering of three contiguous walls of a (six-sided) cube. Like the even simpler two-walled Mach Card – as well as the more complex Ambiguous Corner Cube – it has the property of having more than one possible depth interpretation when viewed and analyzed by the human visual system. It can be perceived either to have a concave shape – the inside of three adjoining walls – or as the convex outside of a cube. The depth reversal effect is enhanced when it is viewed with one eye and with the light source shining from behind, minimizing shadows. Small rotations of the Ambiguous Tri-Wall (when perceived as a convex cube) produce the strong percept of rotation in a direction opposite to the actual motion. We also include an undistorted version of the tri-wall. Compare the two versions simultaneously while holding one in each hand.



Original References:

We have not found the original source for this effect.

However two early references are:

Corey, J. R. "Constructing a Moving Cube Illusion."

Teaching of Psychology, Vol. 16, No. 3, 139, 1989.

Gregory, R. L. *The Intelligent Eye*, McGraw-Hill, New York, 1970.

Credits:

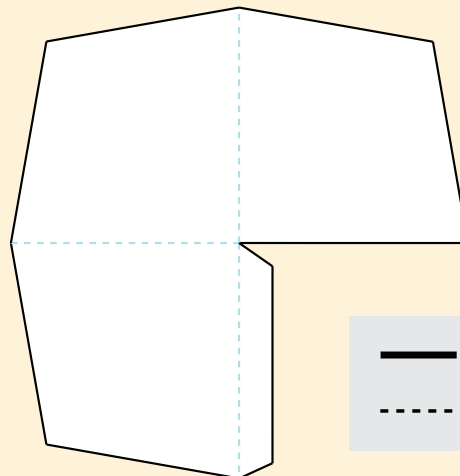
This version of the Ambiguous Tri-Wall was designed by

K. Brecher and R. Puno (Boston University).

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CONSTRUCTION GUIDE

- 1) Cut out the patterns along the solid lines and trim off the black outlines.
- 2) Fold where the dashed lines are shown in the schematic to the right. Make one model with the pattern on the inside (concave perspective version) and the other (cubic) model with the pattern on the outside.
- 3) Secure each figure by taping its tab in place on the outside.



— cut on solid lines

- - - - fold on dashed lines

