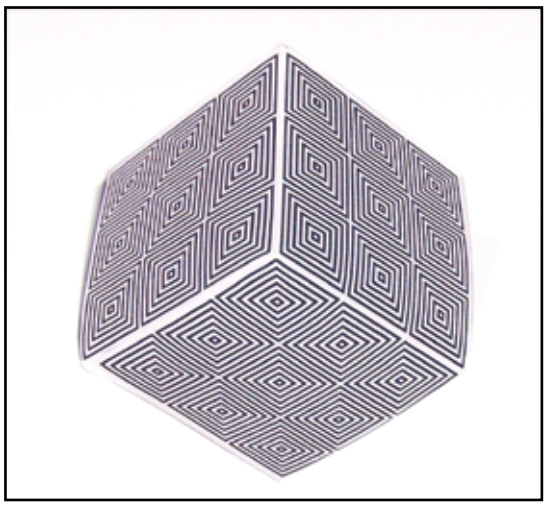
Project LITE

Light Inquiry Through Experiments

http://lite.bu.edu

Ambiguous Tri-Wall

This figure, 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. We include two versions here: one with plane white sides and another with a surface pattern - to enhance the convex cube appearance when viewing it at arm's length. The ambiguities in the object's appearance are enhanced when viewing with one eye. Small rotations of the Tri-Wall (when it is perceived as a convex cube) produce the strong percept of rotation in a direction opposite of the actual motion.



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 pattern along the solid lines. Trim the outline on the black and white version.

2) Fold on the dashed lines shown in the schematic at right. The dotted lines on the plain version should be on the outside. The pattern on the black and white version should face inward.

3) Secure the figure by taping the tab in place on the outside.