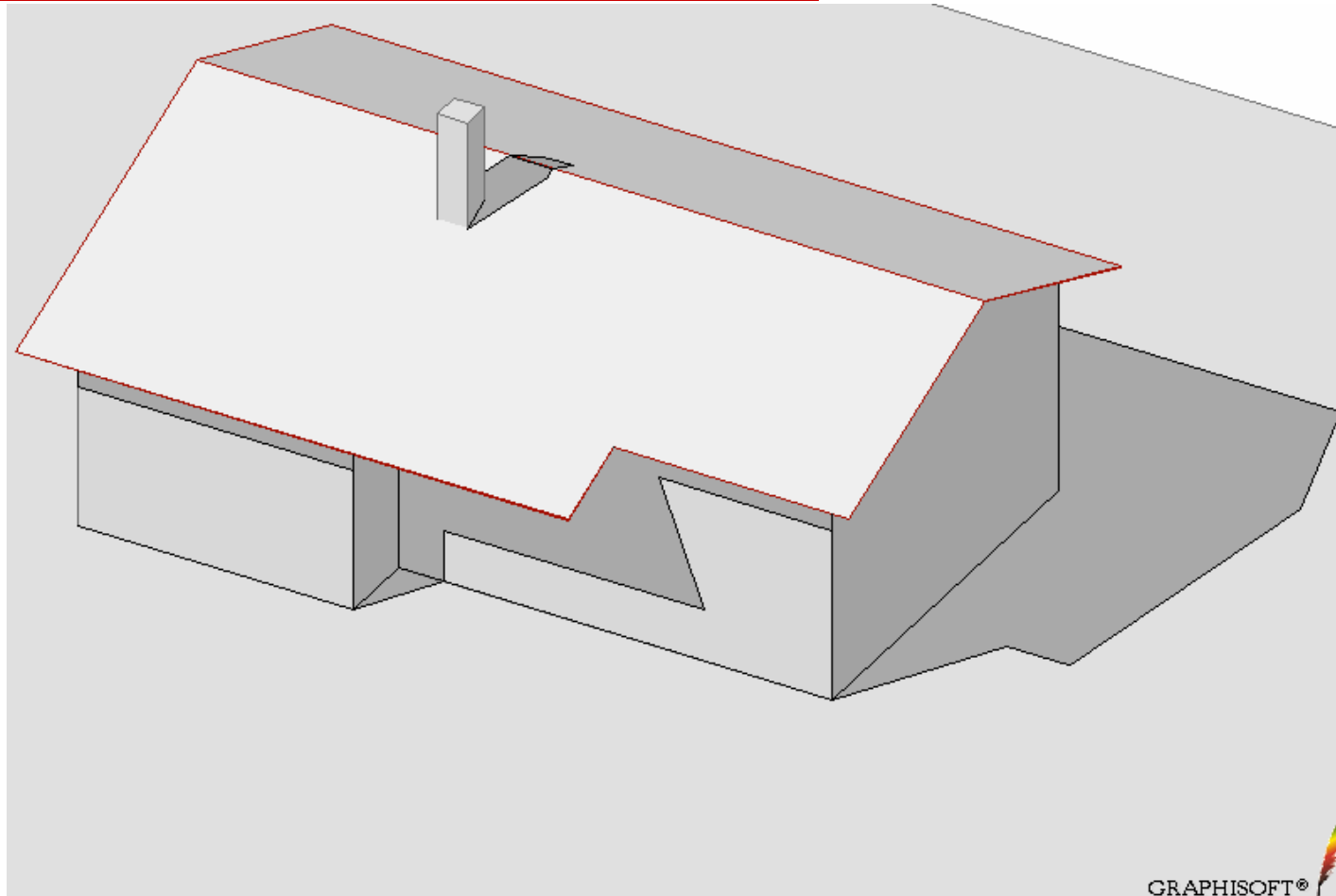
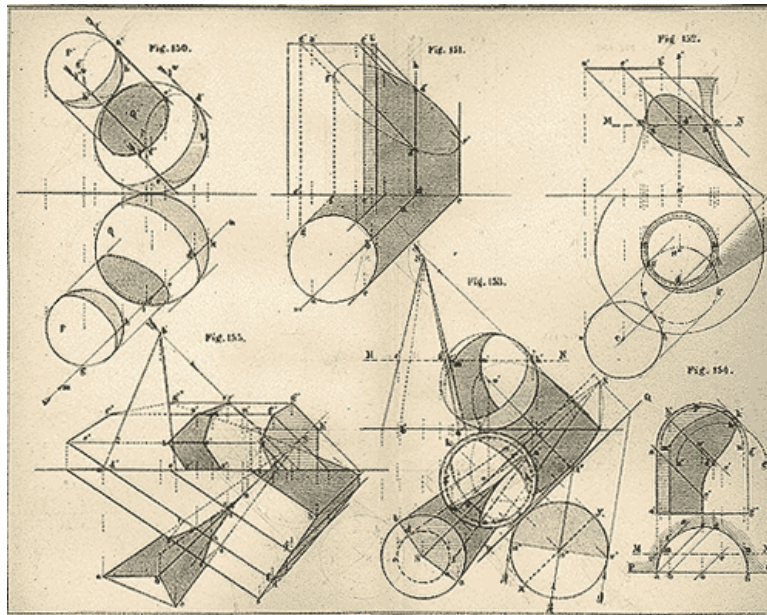


Shadows: Cast Shadow, Self-shadow



Shadow in Traditional Descriptive Geometry



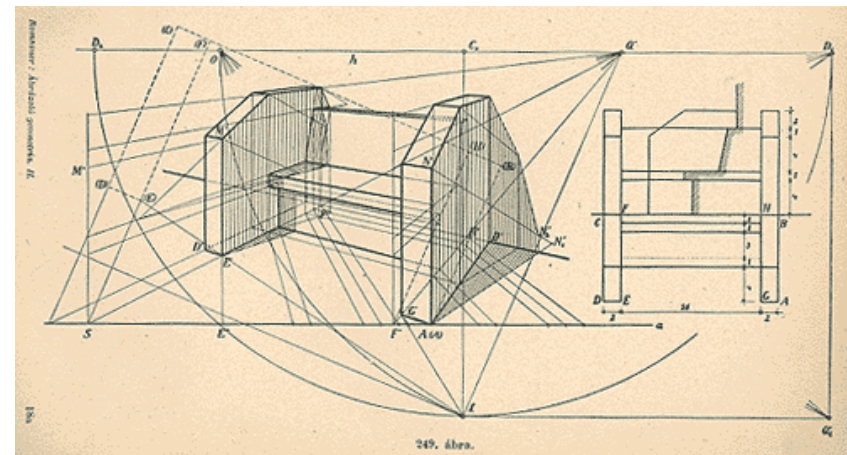
Riess, C.: Grundzüge der darstellenden Geometrie

(Stuttgart : Verl. J. B. Metzler'schen Buchhandlung, 1871)

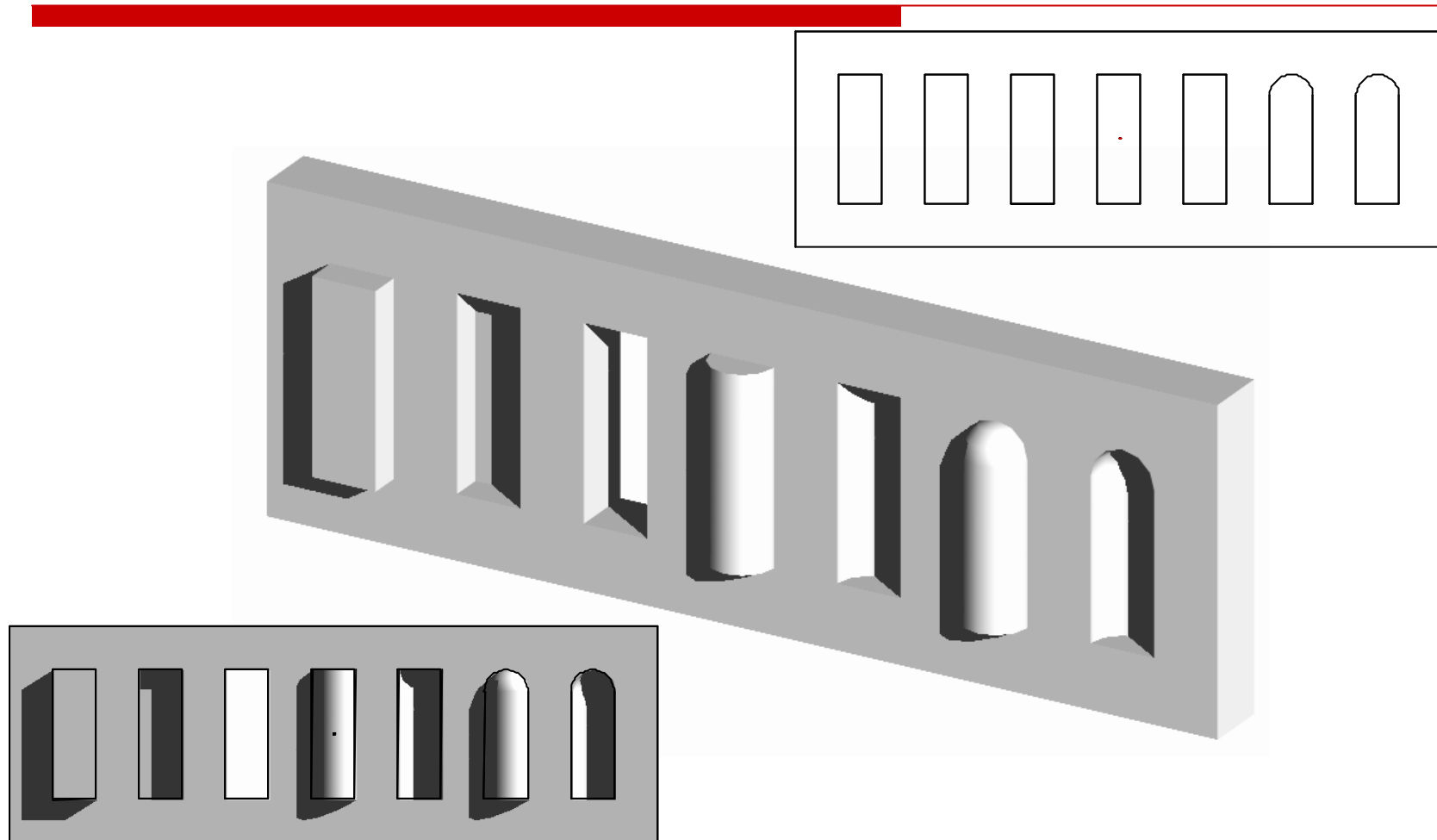
Application of Descriptive Geometry for Construction of Projected Shadow (plate X.)

Romsauer Lajos: Ábrázoló geometria (Budapest : Franklin-Társulat, 1929)

<http://www.c3.hu/perspektiva/adatbazis/>



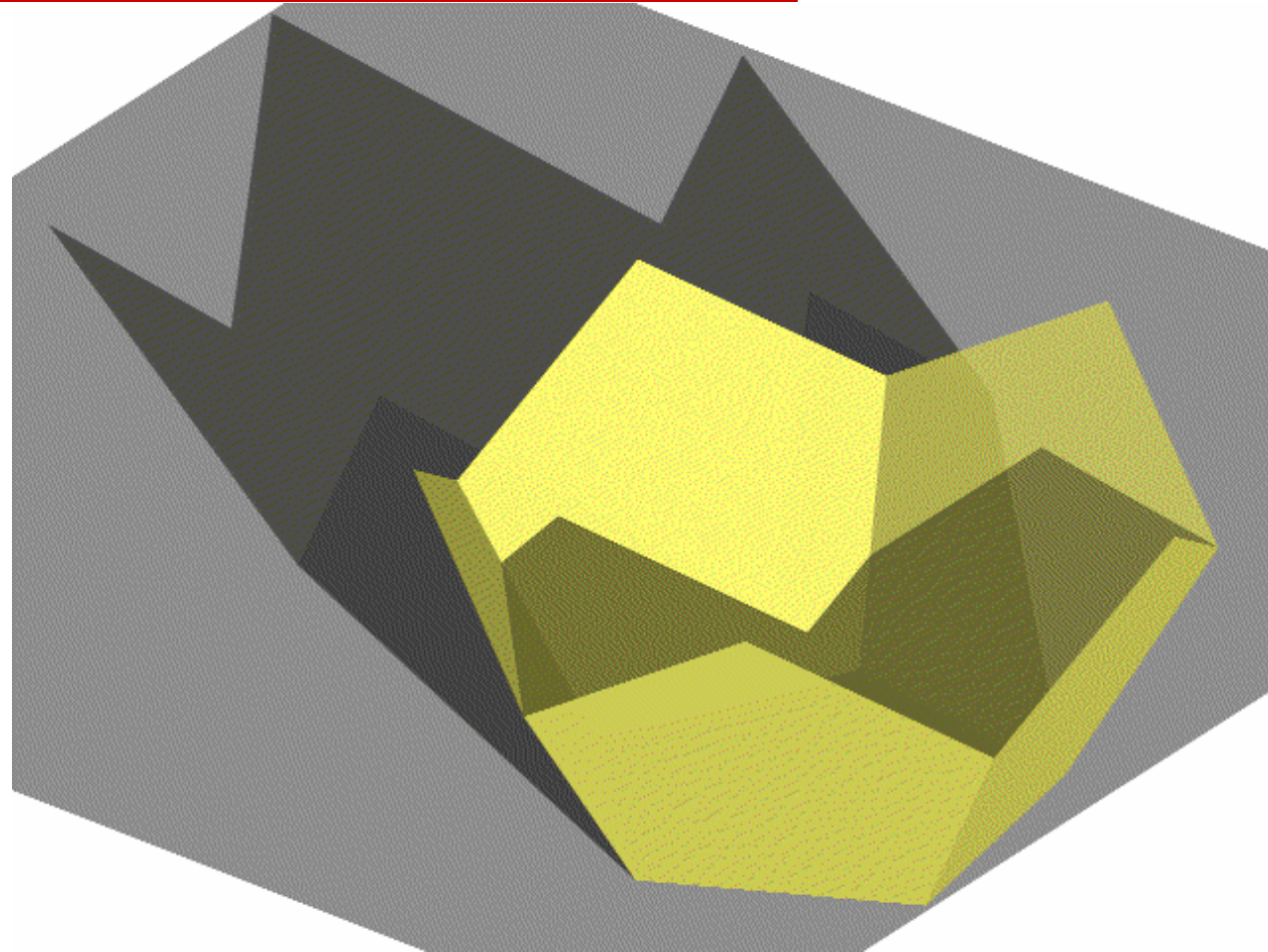
Shadow in Visualisation



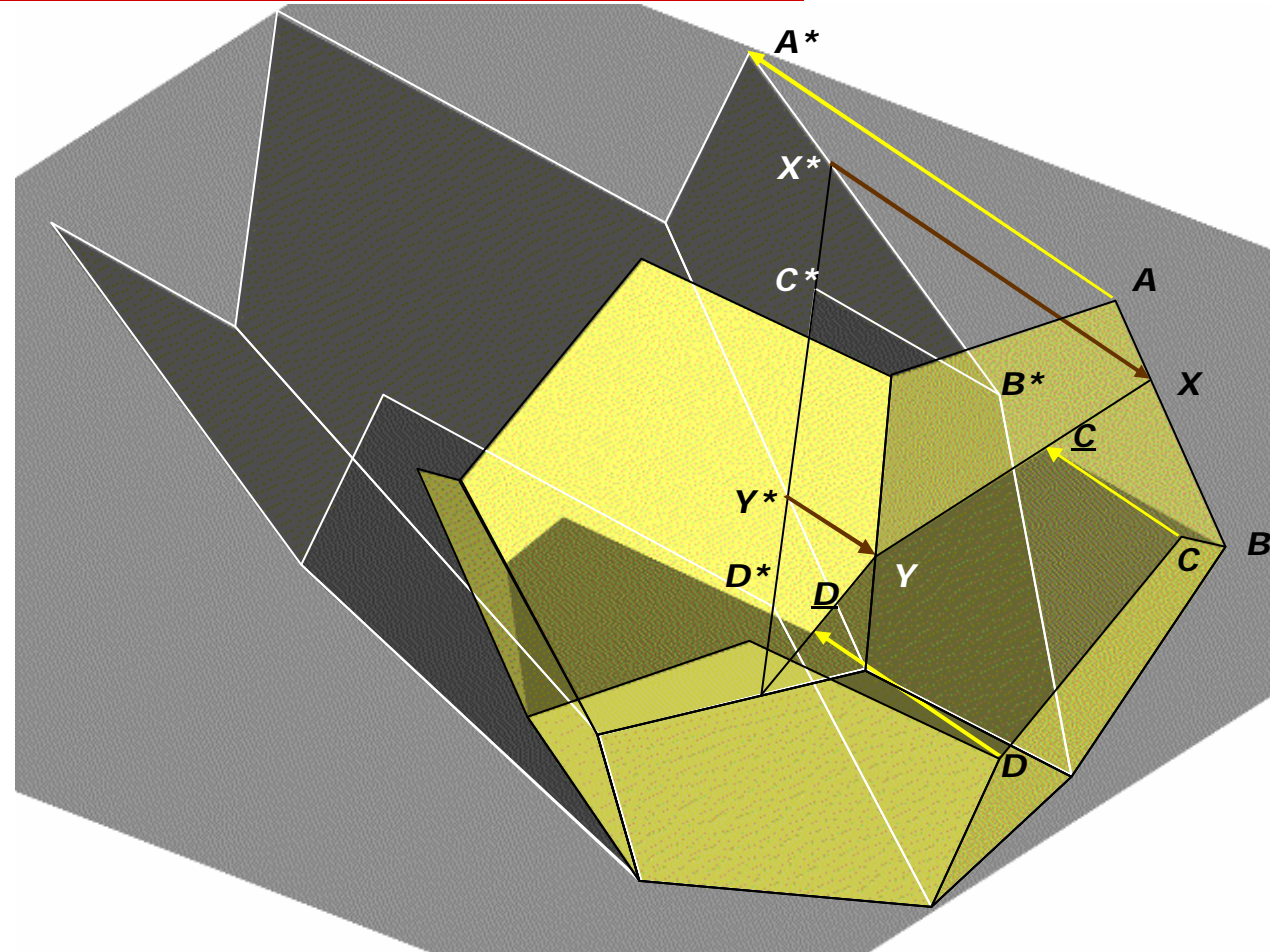
Shadow Properties

- 1) Our constructions are restricted to parallel lighting.
- 2) We do not represent transition between dark and light shade.
- 3) We usually construct three types of shadow: cast shadow on the ground or on the image planes, self-shadow (shade) and projected shadow.
- 4) Shadow of a point: piercing point of the ray of light passing through the point in the surface (on ground plane, picture plane etc.)
- 5) Shadow of a straight line: intersection of the plane passing through the line, parallel to the direction of lighting and the surface (screen).
- 6) Shadow of a curve: the intersection of cylinder whose generatrix is the curve, the generators are rays of light, with the surface (screen).
- 7) Shadow-coinciding points: pair of distinct points, whose shadows coincide.
- 8) Alongside cast shadow the surface is in self-shadow.
- 9) In case of equal orientation of a triangle and its shadow, the face of triangle is illuminated.
- 10) The cast shadow outline is the shadow of the self-shadow outline.

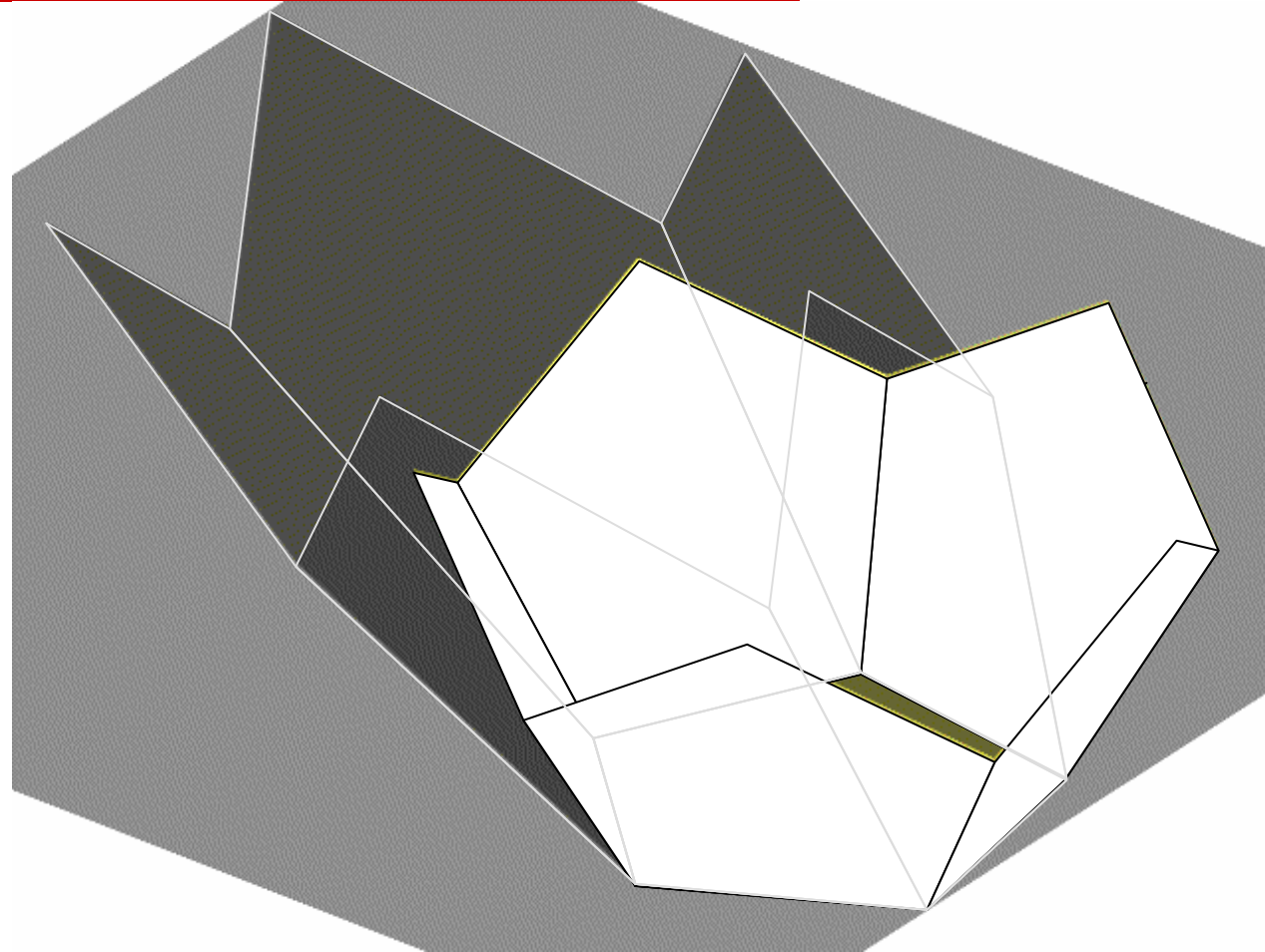
Cast Shadow, Half of Dodecahedron



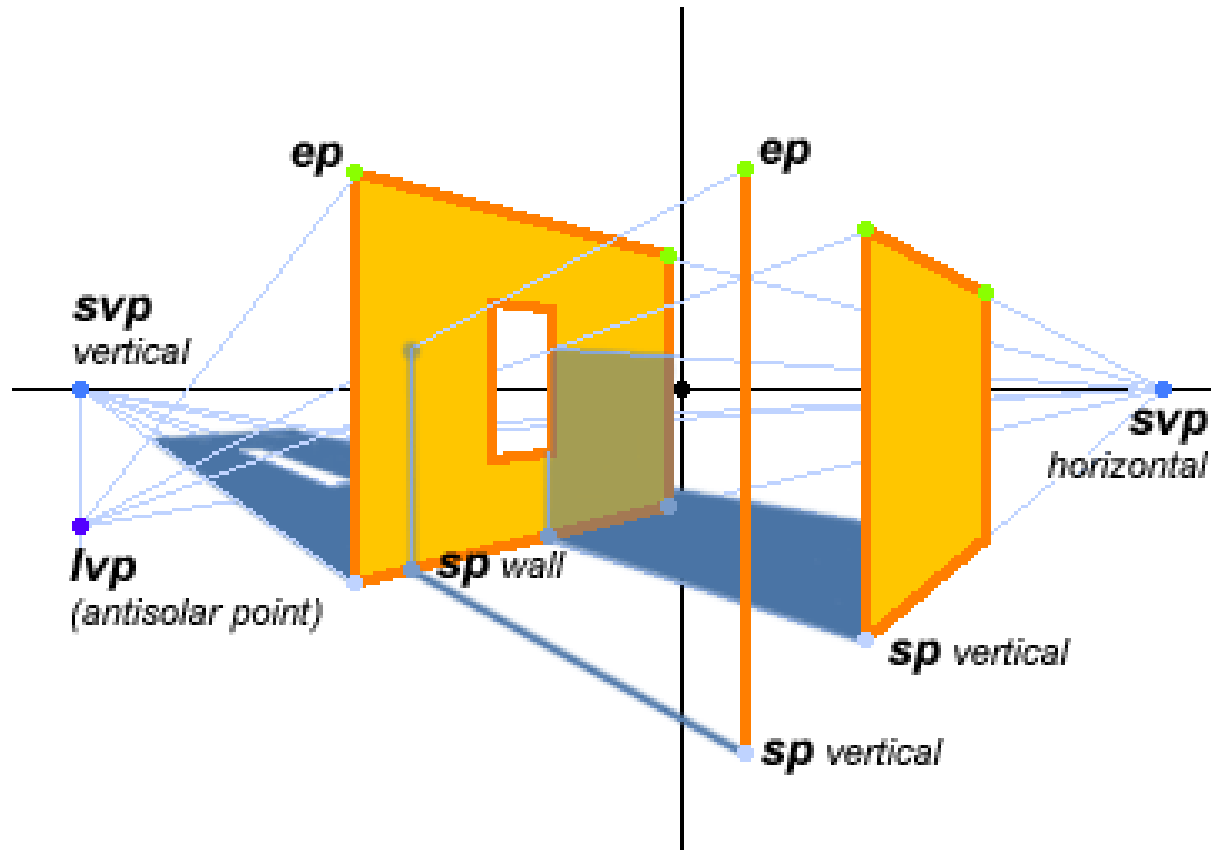
Cast Shadow Inside, Construction



Cast Shadow, Exercise



Shadow in Perspective



<http://www.handprint.com/HP/WCL/perspect6.html>