

26 Geometric Aesthetics

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Today:

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Geometric Aesthetics

Symmetry

Area Alignment

Rule of Thirds

Fibonacci

Golden Ratio

Geometric Aesthetics

Classical Composition

Much comes from classical painting composition, dating far back. These rules are made to be broken.

Rules are empirical, not supported by science.

https://en.wikipedia.org/wiki/Composition_%28visual_arts%29

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1.1 Line and shape
1.2 Colour
2 Principles of organization
2.1 Viewpoint (leading the eye)
3 Compositional techniques
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Modern implementation in 2D graphic design, part of **Human-Computer Interface (HCI)** research

Ware, Colin. *Visual Thinking For Design*. Morgan Kaufmann, 2010. Whole pdf in our AesDes Zotero library

Table of contents: http://www.amazon.com/Visual-Thinking-Kaufmann-Interactive-Technologies/dp/0123708966#reader_0123708966

UX design

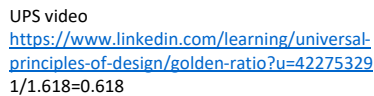
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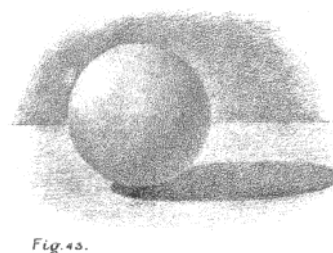


fMRI study. Distorted images were measured as ugly by brain activation area, and they conclude Golden Ratio was the reason.

<https://www.youtube.com/watch?v=RjM8AaN5jhA&index=1&list=PLC1VCzU4q6ohKrlZAscdjylx-gimPul2x> How to draw a Fibonacci spiral



We've covered some of the basics:



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2.2.3 Shading and Cast Shadow

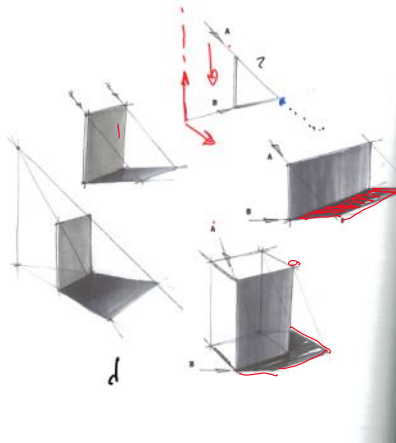
Shading is used to emphasise the volume of an object, and to position it in its surroundings.

Shading refers to the differences in darkness of the object's sides, as related to a light source. Cast shadow is the projected shadow onto a surface.

In general, parallel light (sunlight) creates an effective cast shadow. One point light (lamp light) often does not show an appropriate cast shadow. It can create a shadow that is not related to the object's perspective. It is more difficult to construct and less predictable. Cast shadow from a parallel light source is easier to predict and perceived as realistic.

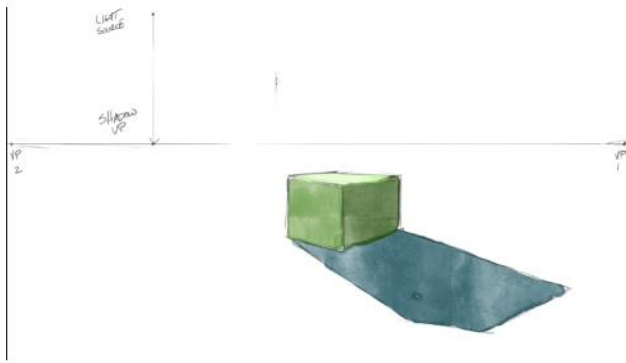
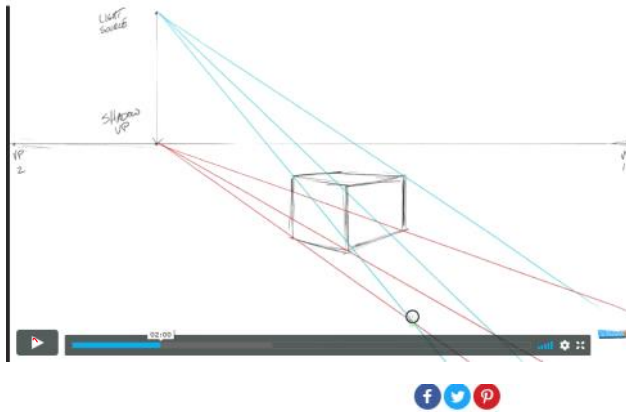
Choosing a direction of the light source is done by two lines: the actual light direction or 'slope' A, and the projected light direction B. Imagine a parallel light source just over your left shoulder. It will have a relatively steep slope A, and B will point slightly towards the upper right.

All the actual light directions (slopes A) in a drawing can be drawn parallel, and all projected light directions will slightly converge.



- 3) Do the geometry rigorously for each light source:

Construct Shadow Vanishing Point: <https://thevirtualinstructor.com/how-to-draw-paint-cast-shadows.html> However, only works for light behind object



After you have the geometry, still have to consider light reflected from surroundings. Will lighten the shadow far from the object, will fall onto shade sides of object and then onto shadow, etc.