11 Contour Bias

Thursday, March 10, 2016 3:18 PM

Admin
Sketching cubes
Universal Principles of Design

Clicker:
57% A) I know my team mates. I know their projects.
36% B) I know my team mates names and faces
0 C) I've met them, but can't pick them out in a crowd
5% D) I've met one in person, but not the other
E) Haven't met either one in person

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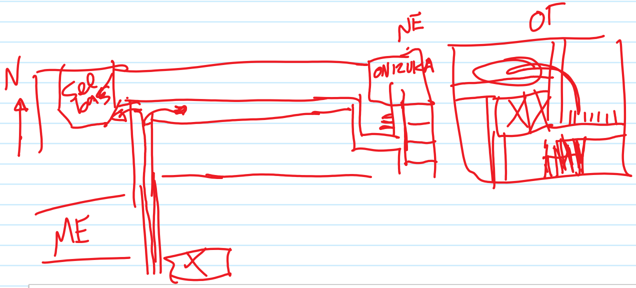
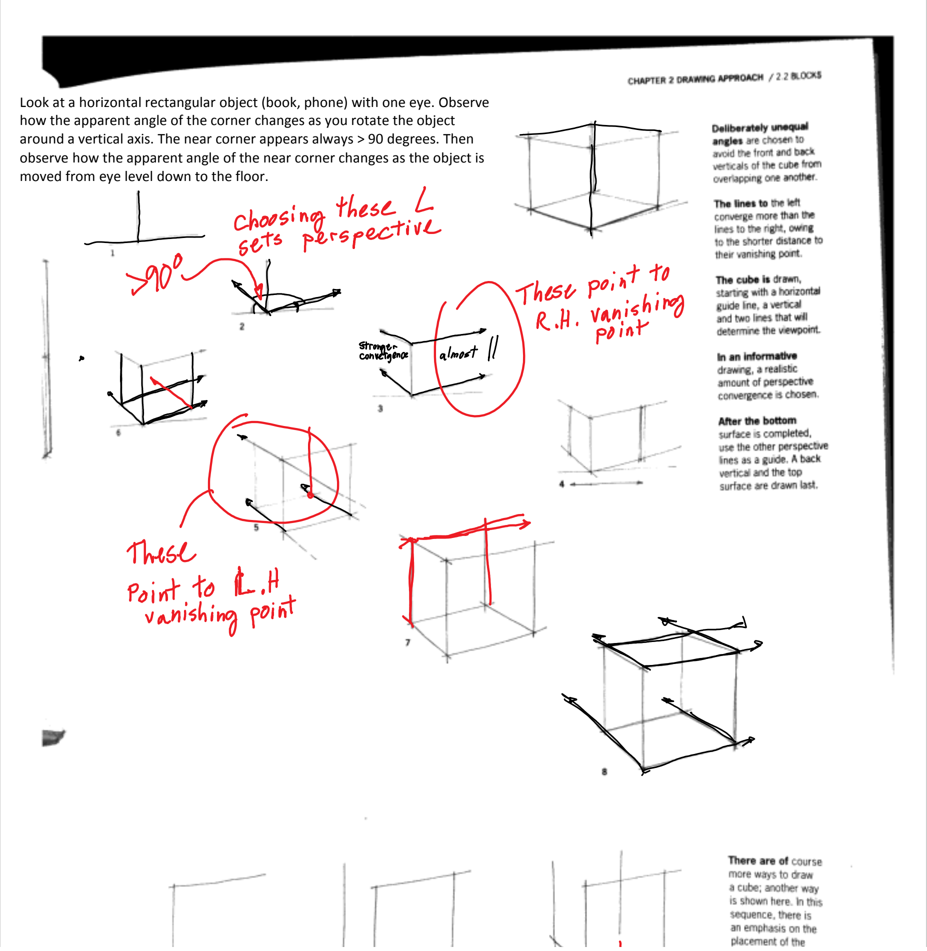
Pod Rooms

Upcycle	Feb 11	Feb13	Feb15
Pod A	ECME 137B	**DLC 1B65 (kassie)**	ECME 137B
Pod B	ECME 137A	**ECAD Clark (YC)**	ECME 137A
Pod C	**ECOT 317**	**ECOT 317**	ECAE 153 Seebass
Pod D	ECAE 199 Onizuka	**ITLL 150**	ECAE 199 Onizuka
Backup	ECCR 150	ECCR 150	ECCR 150

Still need volunteer Pod Leaders: a leadership opportunity you can put on your resume!

Upcycle project: Focus is on AESTHETICS not functionality!





CHAPTER 2 DRAWING APPROACH / 2.2 BLOCKS

Look at a horizontal rectangular object (book, phone) with one eye. Observe how the apparent angle of the corner changes as you rotate the object around a vertical axis. The near corner appears always > 90 degrees. Then observe how the apparent angle of the near corner changes as the object is moved from eye level down to the floor.

Deliberately unequal angles are chosen to avoid the front and back verticals of the cube from overlapping one another.

The lines to the left converge more than the lines to the right, owing to the shorter distance to their vanishing point.

The cube is drawn, starting with a horizontal guide line, a vertical and two lines that will determine the viewpoint.

In an informative drawing, a realistic amount of perspective convergence is chosen.

After the bottom surface is completed, use the other perspective lines as a guide. A back vertical and the top surface are drawn last.

There are of course more ways to draw a cube; another way is shown here. In this sequence, there is an emphasis on the placement of the

1
2
3
4
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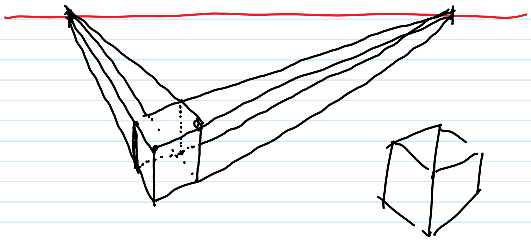
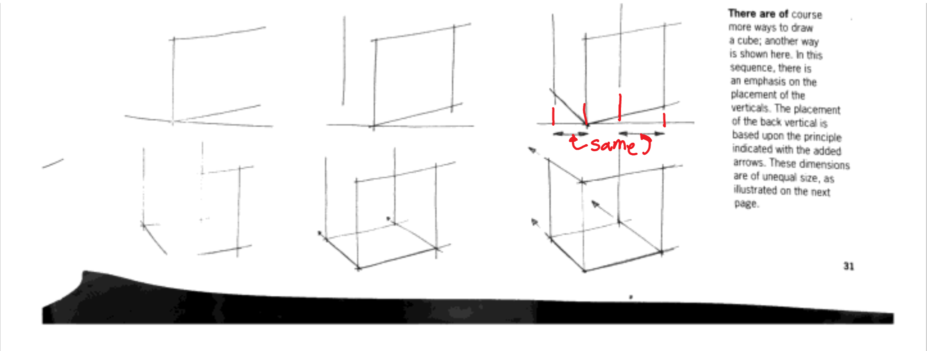
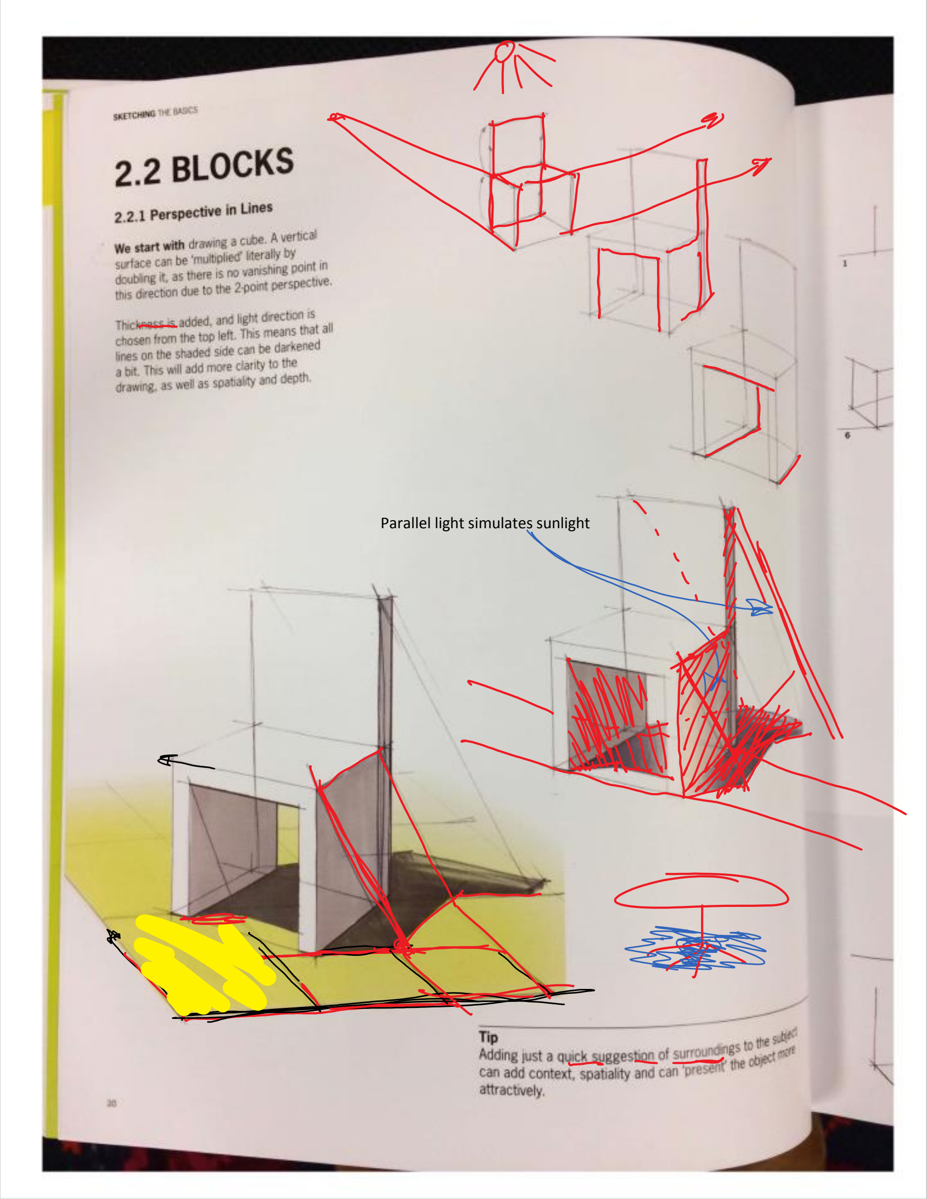
Choosing these ∠ sets perspective
>90°
Stronger convergence
almost ||
These point to R.H. vanishing point
These Point to L.H vanishing point





There are of course more ways to draw a cube; another way is shown here. In this sequence, there is an emphasis on the placement of the verticals. The placement of the back vertical is based upon the principle indicated with the added arrows. These dimensions are of unequal size, as illustrated on the next page.



2.2 BLOCKS

2.2.1 Perspective in Lines

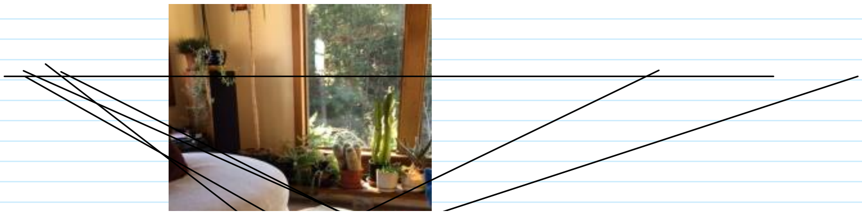
We start with drawing a cube. A vertical surface can be 'multiplied' literally by doubling it, as there is no vanishing point in this direction due to the 2-point perspective.

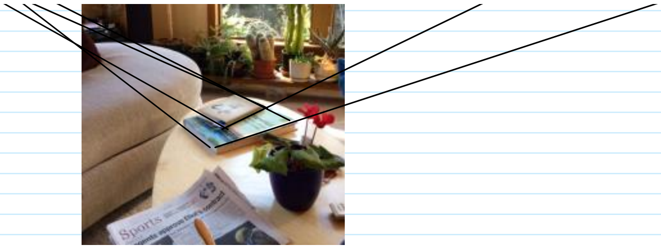
Thickness is added, and light direction is chosen from the top left. This means that all lines on the shaded side can be darkened a bit. This will add more clarity to the drawing, as well as spatiality and depth.

Parallel light simulates sunlight

Tip
Adding just a quick suggestion of surroundings to the subject can add context, spatiality and can 'present' the object more attractively.

Exercise 1: What is realistic for viewpoints? Take some snapshots of rectangular shapes, draw on them, extending lines to see where vanishing points are.





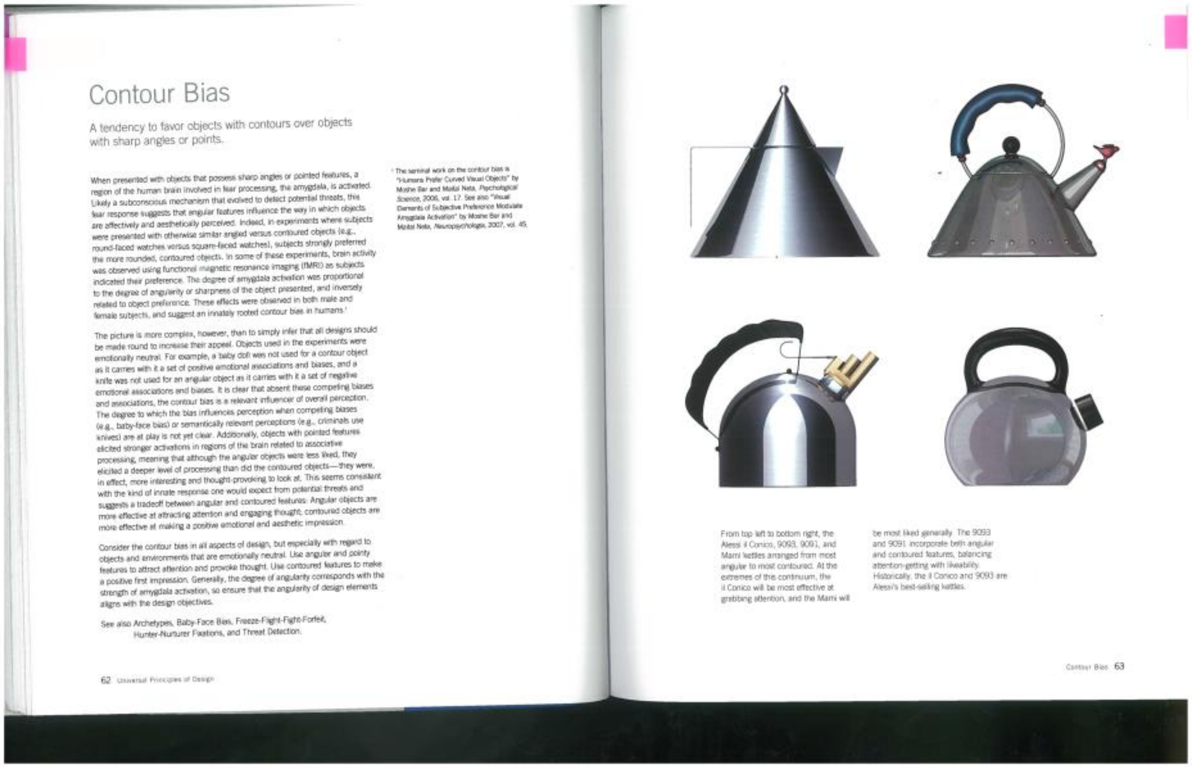
Universal Principles of Design (UPDes)

Book and video series, available on Lynda.com (http://www.colorado.edu/lynda)

Many good functional design rules, based on ergonomics, psychology, market research; what do people do when they interact with designs? Text has references that video omits.

And some good aesthetics rules, based on research on human likes/dislikes.

Today, Contour Bias



Contour Bias

A tendency to favor objects with contours over objects with sharp angles or points.

When presented with objects that possess sharp angles or pointed features, a region of the human brain involved in fear processing, the amygdala, is activated. Likely a subconscious mechanism that evolved to detect potential threats, this fear response suggests that angular features influence the way in which objects are affectively and aesthetically perceived. Indeed, in experiments where subjects were presented with otherwise similar angled versus contoured objects (e.g., round-faced watches versus square-faced watches), subjects strongly preferred the more rounded, contoured objects. In some of these experiments, brain activity was observed using functional magnetic resonance imaging (fMRI) as subjects indicated their preference. The degree of amygdala activation was proportional to the degree of angularity or sharpness of the object presented, and inversely related to object preference. These effects were observed in both male and female subjects, and suggest an innately rooted contour bias in humans.[1]

The picture is more complex, however, than to simply infer that all designs should be made round to increase their appeal. Objects used in the experiments were emotionally neutral. For example, a baby doll was not used for a contour object as it carries with it a set of positive emotional associations and biases, and a knife was not used for an angular object as it carries with it a set of negative emotional associations and biases. It is clear that absent these competing biases and associations, the contour bias is a relevant influencer of overall perception. The degree to which the bias influences perception when competing biases (e.g., baby-face bias) or semantically relevant perceptions (e.g., criminals use knives) are at play is not yet clear. Additionally, objects with pointed features elicited stronger activations in regions of the brain related to associative processing, meaning that although the angular objects were less liked, they elicited a deeper level of processing than did the contoured objects—they were, in effect, more interesting and thought-provoking to look at. This seems consistent with the kind of innate response one would expect from potential threats and suggests a tradeoff between angular and contoured features: Angular objects are more effective at attracting attention and engaging thought; contoured objects are more effective at making a positive emotional and aesthetic impression.

Consider the contour bias in all aspects of design, but especially with regard to objects and environments that are emotionally neutral. Use angular and pointy features to attract attention and provoke thought. Use contoured features to make a positive first impression. Generally, the degree of angularity corresponds with the strength of amygdala activation, so ensure that the angularity of design elements aligns with the design objectives.

See also Archetypes, Baby-Face Bias, Freeze-Flight-Fight-Forfeit,
Hunter-Nurturer Fixations, and Threat Detection.

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[1] The seminal work on the contour bias is "Humans Prefer Curved Visual Objects" by Moshe Bar and Maital Neta, *Psychological Science*, 2006, vol. 17. See also "Visual Elements of Subjective Preference Modulate Amygdala Activation" by Moshe Bar and Maital Neta, *Neuropsychologia*, 2007, vol. 45.

From top left to bottom right, the Alessi il Conico, 9093, 9091, and Mami kettles arranged from most angular to most contoured. At the extremes of this continuum, the il Conico will be most effective at grabbing attention, and the Mami will be most liked generally. The 9093 and 9091 incorporate both angular and contoured features, balancing attention-getting with likeability. Historically, the il Conico and 9093 are Alessi's best-selling kettles.

Pointy objects are scary, they activate the amygdala, the part of the brain that processes fear (flight vs fight)

Pointy objects command attention and provoke thought

Rounded objects are more liked.

Where do you see this play out? Cars, furniture, architecture, other products?

What do you want for your Upcycle project: to be liked or be thought provoking?