

21 Universal Principles of Design

Monday, March 11, 2024 3:18 PM

Today

Universal Principles of Design (UPD)
Contour Bias
Aesthetic-Useability Effect

Admin.

- Guest lecture 2 rescheduled, probably April 11. Guest lecture 3 April 18
- For your main project: Don't get too caught up in functionality or manufacturability. Keep those parts simple and focus on aesthetics.

Universal Principles of Design (UPDes)

Book and video series, available on Linked In Learning /Lynda.com

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- Select **Training**.
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Lidwell, William, Kritina Holden, and Jill Butler. *Universal Principles of Design: 200 Ways to Increase Appeal, Enhance Usability, Influence Perception, and Make Better Design Decisions*. Updated and Expanded, Third edition. Beverly, MA: Quarto Publishing Group USA Inc, 2023. \$20 Kindle, \$30 paperback

PDF in our Zotero Library

<https://dokumen.pub/qdownload/universal-principles-of-design-200-ways-to-increase-appeal-enhance-usability-influence-perception-and-make-decisions-3nbsped-076037516x-9780760375167-9780760375174.html>.

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 Western research on human likes/dislikes.

Today, Contour Bias (no LIL video available)



<https://www.aesdes.org/2021/01/14/zotero-library-access/>

037 Contour Bias

A tendency to favor things with contoured features over angular or rectilinear features.

When presented with objects or environments that possess sharp angles or pointed features, a region of the human brain involved in fear processing, the amygdala, is activated. The degree of fear activation in the brain is proportional to the angularity and sharpness of the features. Likely a subconscious mechanism that evolved to detect potential threats, this fear response suggests that angular features influence the way objects are aesthetically and emotionally perceived.¹

The contour bias is robust with things that have either a neutral or positive valence but not with things that have a negative valence. An example of things with a neutral valence is simple geometric shapes: A circle will generally be aesthetically preferable to a triangle. An example of a thing with a positive valence is a teddy bear: A roundish teddy bear will generally be aesthetically preferable to an angular teddy bear. An example of a thing with a negative valence is a bomb: A roundish bomb will generally not be aesthetically preferable to a pointy bomb.²

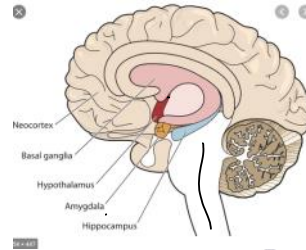
Objects and environments with angular or pointy features elicit stronger activations in regions of the brain related to associative processing, meaning that although angular objects are less liked, they elicit a deeper level of processing than do the contoured objects—they are, in effect, more interesting and thought-provoking to look at. This is consistent with the kind of innate response one would expect from potential threats and suggests a tradeoff between angular and contoured features: Angular features are more effective at attracting attention and engaging thought; contoured features are more effective at making a positive emotional and aesthetic impression.

Consider the contour bias to make things cuter and more inviting. In emotionally neutral or positive contexts, favor round, curvy forms over sharp, angular forms as there is a general relative preference for rounded objects. Employ contoured features to make a positive first impression and promote calm and trust. Favor angular and pointy features to attract and hold attention, as observed with octagonal stop signs and triangular warning signs.

See also Archetypes, Psychological; Baby-Face Bias; Freeze-Fight-Fight-Forget, Play Preferences; Threat Detection

¹ The seminal work on the contour bias is "Humans Prefer Curved Visual Objects" by Moshe Bar and Maital Neta, 2006, *Psychological Science*, 17(8), 645–648. See also "Visual Elements of Subjective Preference Modulate Amygdala Activation" by Moshe Bar and Maital Neta, 2007, *Neuropsychologia*, 45(10), 2191–2200.

² "Emotional Valence Modulates the Preference for Curved Objects" by Helmut Leder et al., 2011, *Perception*, 40, 649–655.



il Conico



9093



9091



Mami

From top left to bottom right, these Alessi kettles are 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.

Bar, Moshe, and Maital Neta. "Humans Prefer Curved Visual Objects." *Psychological Science* 17, no. 8 (August 1, 2006): 645–48.

<https://doi.org/10.1111/j.1467-9280.2006.01759.x>.

Leder, Helmut, Pablo P L Tinio, and Moshe Bar. "Emotional Valence Modulates the Preference for Curved Objects." *Perception* 40, no. 6 (June 2011): 649–55.

<https://doi.org/10.1068/p6845>.

Both are in our Zotero library

Where do you see this play out? Come up with contrasting example images. Consider in real life and in movies etc, historic, contemporary, futuristic


What do you want for your main project: Is your project emotionally neutral? Do you want it to be liked or be thought provoking?

Small group discussion, breakout rooms

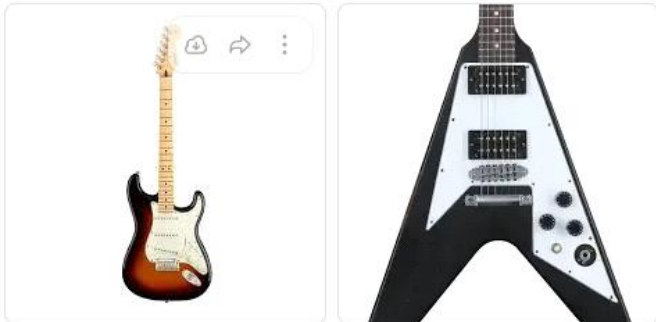
Examples:

Zoe Cooper 12:43 PM
an interesting thing to look into when talking about sharp vs pointy objects and their effect https://en.wikipedia.org/wiki/Bouba/kiki_effect

Wikipedia
Bouba/kiki effect
The bouba-kiki effect () or takete-maluma phenomenon is a non-arbitrary mental association between certain speech sounds and certain visual shapes. The most typical research finding is that people, when presented with nonsense words, tend to associate certain ones (like bouba and maluma) with a rounded shape and other ones (like kiki and takete) with a spiky shape. Its discovery dates back to the 1920s, when psychologists documented experimental participants as connecting nonsense words to shapes in consistent ways. There is a strong general tendency towards the effect worldwide; it has been robustly confirmed across a majority of cultures and languages in which it has been researched, for ex... [Show more](#)



Seth Dry 12:49 PM
2 files ▾



Jules Fischer-White 12:49 PM
2 files ▾



20 Aesthetic-Usability Effect <https://www.linkedin.com/learning/universal-principles-of-design/aesthetic-usability-effect?u=42275329> Form = Function? Maybe it's better to break the law!

Small group discussion: Is your project governed only by function? What about the form?