Aesthetics and Visual Design #2
Wednesday, April 2nd, 2012
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Welcome to College Park Bicycles & Mt. Airy Bicycles bike123.com

CONTACT US

If you have an auto response spam filter, like Mindspring, please turn it off when emailing us. Gmail and some others have very effective spam filters that could do away with the need. For forwards and sending attachments, use info@bike123.com

Have you noticed that you have not been getting emails from us? Though we only send out three or four per year our email list was trashed. Emails are usually about events, we have yet to send out any sales pitches or coupons, though we gladly accept anyone else's coupons for products or services. If you wish to be placed on our email list, please send an email to subscribe@bike123.com

Test rides: Because we have a smaller, focused professional staff and a smaller space than many shops, we suggest emailing or calling before visiting to test ride, especially in the off season, inclement weather, for trikes, tandems, recumbents, and used bikes.

Mt Airy Spring Demo Day
Sunday, April 15th
details...

American Diabetes Association
Tour de Cure

We are looking for team members for Mt Airy Bicycles, official support shop of the 2012 tour. We will match any corporate or individual pledges.
details...

Thank you to Bikase Waterproofing for helping STOP Diabetes.

Easy-to-Use Phone Cases
BIKASE
Fit Most Phones

details...
Fame/Shame

Sound design is not only within the reach of a small set of uniquely talented individuals, but can be achieved by virtually all designers.
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* The best designers sometimes disregard the principles of design. When they do so, however, there is usually some compensating merit attained at the cost of the violation. Unless you are certain of doing as well, it is best to abide by the principles.

Gestalt-Related Design Principles

1. Figure / Ground
2. Proximity
3. Similarity
4. Connectedness
5. Continuity
6. Closure
7. Common Fate
8. Transparency
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Figure/Ground

Elements are perceived as either **figures** (objects of focus) or **ground** (the rest of the perceptual field).

A stable relationship exists when a form/figure stands clearly apart from its background.

Figure/Ground

Elements are perceived as either **figures** (objects of focus) or **ground** (the rest of the perceptual field).

- **Stable**: A stable relationship exists when a form/figure stands clearly apart from its background.
- **Reversible**: Reversible occurs when positive & negative elements attract our attention equally. The figure & ground alternates.

**Figure/Ground**

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A stable relationship exists when a form/figure stands clearly apart from its background.

Reversible occurs when positive & negative elements attract our attention equally. The figure & ground alternates.

Ambiguous challenges the viewer to find a focal point. Figure is enmeshed in ground.

Figure/Ground
Elements are perceived as either **figures** (objects of focus) or **ground** (the rest of the perceptual field).

Designers/artists often **seek a balance** between figure and ground, using this relationship to **bring energy** and order to form and space. They build contrasts between form and counterform in order to construct icons, logos, and compositions that stimulate the eye. Creating **figure/ground tension** or ambiguity can **add visual energy** to an image.

Confronted by a visual image, our perceptual system separates a dominant shape (a “figure”) from a “background”

[Example from http://www.aber.ac.uk/media/Modules/MC10220/visper07.html]
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Figure/Ground

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This image is also an example of multistability & reversibility

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Proximity

Three Columns

Square Group

Three Rows

Proximity

Elements **closer together** are interpreted as being **more related** than elements that are far apart.

Three Columns  
Square Group  
Three Rows

Proximity

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A complex visual display is interpreted as having different areas and types of information depending on the similarity of color, size, and shape of its elements; similar elements are interpreted as similar to each other.

Similarity

Elements that are similar are perceived to be more related than elements that are dissimilar.

Similarity

Elements that are **similar** are perceived to be **more related** than elements that are dissimilar.

Similarity

Elements that are similar are perceived to be more related than elements that are dissimilar.

Similarity of color results in the strongest grouping effect.

Similarity of size is effective when the size of elements are clearly distinguishable from one another.

Similarity of shape is the weakest grouping strategy; it is best used in conjunction with other properties.

Table-Related Design Principles

1. Entrance
2. Exit
3. Motion Paths
4. More Entrance Effects...
5. More Exit Effects...
6. More Motion Paths...

- Click to add notes
What happens if you **start mixing** these principles together?
Proximity tends to overpower other signals of distinction
Usually only one principle more powerful than proximity...
Gestalt-Related Design Principles

1. Figure / Ground
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Connectedness

Elements that are connected by uniform visual properties are perceived to be more related than elements that are not connected.

Connectedness

Elements that are **connected** by uniform visual properties are perceived to be **more related** than elements that are not connected.
Connectedness

Two basic strategies for applying uniform connectedness in a design: **connecting lines** and **common regions**
Connectedness

Even subtle outlining can override other principles

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Han et al., *Uniform Connected & Classical Gestalt Principles*, Perception & Psychophysics 1999]
Connectedness

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Connectedness

Gestalt-Related Design Principles

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Continuity/Good Continuation

Elements arranged in a **straight line** or a **smooth curve** are perceived as a **group**, and are interpreted as being more related than elements not on the line or curve.

The ability to accurately perceive objects depends largely on the perceptibility of the corners and shape curves that comprise the shape. When sections of a shape are hidden, continuation leads the eye to continue along visible segments.

Continuity/Good Continuation

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The first graph is easier to read than the second because the end points of its bars form a line that is more continuous.

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Closure
A tendency to perceive a **set of individual elements as a single, recognizable pattern**, rather than multiple individual elements.

Gestalt-Related Design Principles

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8. Transparency
Common Fate

Elements that move in the same direction are perceived to be more related than elements that move in a different direction or are stationary.

Gestalt Design Activity
(using these principles)

1. Figure / Ground
2. Proximity
3. Similarity
4. Connectedness
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7. Common Fate
8. Transparency
Golden Ratio

\[ \frac{a}{b} \]
**Golden Ratio**

\[
\frac{a+b}{a} = \frac{a}{b}
\]

\[a+b\] is to \[a\] as \[a\] is to \[b\]

The golden ratio is also known as the golden mean, the golden number, golden section, golden proportion, divine proportion, and sectio aurea.

\[ \frac{a+b}{a} = \frac{a}{b} = \phi \]

\[ \phi = \frac{1 + \sqrt{5}}{2} = 1.6180339887\ldots \]
Stradivari utilized the **golden ratio** in the construction of his violins

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![Golden Ratio Diagram]

[Stradivari's Violin Design](https://www.slideshare.net/phdwood/principles-of-design-1276314)

Golden Rectangle
Has side lengths with the golden ratio: ~1:1.618

[Golden Rectangle Diagram]

Golden Rectangle
Has side lengths with the golden ratio: \( \sim 1:1.618 \)

Golden Rectangle

Has side lengths with the golden ratio: \( \sim 1:1.618 \)

A distinctive feature of the golden rectangle is that when the square section is removed, the remainder is another golden rectangle.

Square removal can be repeated infinitely, in which case the corners of the squares form the sequence of points in the golden spiral.

Golden Spiral
A logarithmic spiral w/growth factor $\varphi$ (the golden ratio). The golden spiral gets wider by a factor of $\varphi$ for every $\frac{1}{4}$ turn.