Color, Typography, Gestalt

No screens





Prof. Lydia Chilton COMS 4170 4 February 2019



Homework 2 Review

HTML, CSS, Information Hierarchy

CSS selectors

```
<style>
             div{
                  color: blue;
 8
 9
10
11
12
13
              #home div{
14
                  color: red;
15
16
17
18
19
20
              .highlight_div{
21
                  color: yellow;
22
23
```

All <div> elements get this style

At most one <div> elements get this style

Some <div> elements get this style

Elements get their most specific CSS style

```
div{
    color: blue;
}

#home_div{
    color: red;
}

.highlight_div{
    color: green;
}

.highlight_div2{
    color: grey;
}
```



Elements get their most specific CSS style

```
div{
    color: blue;
}

#home_div{
    color: red;
}

.highlight_div{
    color: green;
}

.highlight_div2{
    color: grey;
}
```

```
<body>
    <div class="highlight_div highlight_div2"> DIV 5 </div><bre>
    <div class="highlight_div2 highlight_div"> DIV 6 </div><bre>
</body>
```

```
DIV 5
DIV 6
```

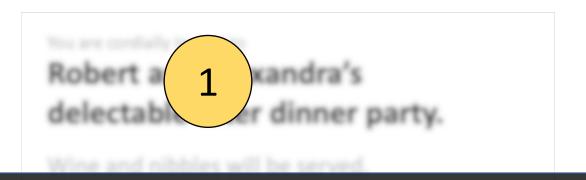
```
.highlight_div.highlight_div2{
    color: orange;
}
```

```
.highlight_div .highlight_div2{
    color: yellow;
}
```

Selects elements with BOTH classes

This is something else (selects descendants)

Users can't focus on everything at once. They have a spotlight of attention.



A visual hierarchy of information allows designers to guide users' attention.

Step 1. Group related information into chunks

You are cordially invited to Robert and Alexandra's delectable after dinner party. Wine and nibbles will be served. When: February 20th, 2018 at 9:30pm. Where: the pad. If you need directions, ping us. Kindly let us know if you will be attending by February 1st.

You are cordially invited to Robert and Alexandra's delectable after dinner party.

Wine and nibbles will be served.

When: February 20th, 2019 at 9:30pm.

Where: the pad. If you need directions, ping us.

Kindly let us know if you will be attending by February 1st.

Step 2. In each chunk, decide what's important to emphasize.

You are cordially invited to Robert and Alexandra's delectable after dinner party.

Wine and nibbles will be served.

When: February 20th, 2019 at 9:30pm.

Where: the pad. If you need dir, ping us.

Kindly let us know if you will be attending by February 1st.

You are cordially invited to

Robert and Alexandra's delectable after dinner party.

Wine and nibbles will be served.

When: February 20th, 2019 at 9:30pm.

Where: **the pad**. If you need directions, ping us.

Kindly let us know if you will be attending by **February 1**st.

Step 3. Consolidate into 3 groups.

You are cordially invited to

Robert and Alexandra's delectable after dinner party.

Wine and nibbles will be served.

When: February 20th, 2019 at 9:30pm.

Where: the pad. If you need directions, ping us.

Kindly let us know if you will be attending by **February 1**st.

Problem 4: Creating Information Hierarchy

100% COTTON.

MADE IN CHINA. RFC# 910911-040

COLD WASH MACHINE. DO NOT BLEACH.

WASH INSIDE OUT. SEPARATE FROM DARKS.

DO NOT TUMBLEDRY OR DRY CLEAN.

LINE DRY IN SHADE.
WARM IRON ON REVERSE.



Yay! Good job!

Cold wash muchine. Wash dark separately. Wash inside out. Do not bleach. Do not bleach. Do not dry clean. Do not tumble dry. Line dry in shade.

Warm iron on reverse.

Made to Clean and Clean are serverse.

Good: There are three groups.

Problem: There's too much in group 2.

It's all emphasized

Fix: Break up group 2

Cold wash machine
Do NOT dry clean
Do NOT bleach
Wash dark separately
Wash inside out

Do NOT tumble dry
Line dry in shade
Warm iron on reverse

100% Cotton
Made in China
RFC# 910911-040

Good: There are three groups.

Nice-sized concepts

Problem: There's no focus within the group.

Only one heuristic is being used

Fix: Be selective on what to prioritize

Cold wash machine
Do NOT dry clean
Do NOT bleach

Wash dark separately
Wash inside out

Do **NOT** tumble dry **Line dry** in **shade Warm iron** on **reverse**

100% Cotton Made in China RFC# 910911-040 What the concept?

Washing instructions

What the concept? **Drying instructions**

What the concept?

Manufacturing instructions

Cold wash machine

Do NOT dry clean
Do NOT bleach
Wash dark separately
Wash inside out

Do NOT tumble dry

Line dry in shade Warm iron on reverse

100% Cotton

Made in China RFC# 910911-040

Cold wash machine
Do NOT dry clean
Do NOT bleach
Wash dark separately
Wash inside out

What the concept?

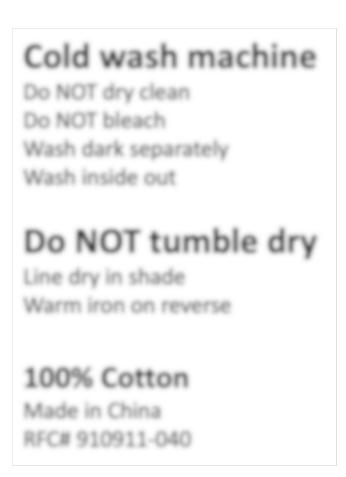
Washing instructions

Do **NOT** tumble dry **Line dry** in **shade Warm iron** on **reverse**

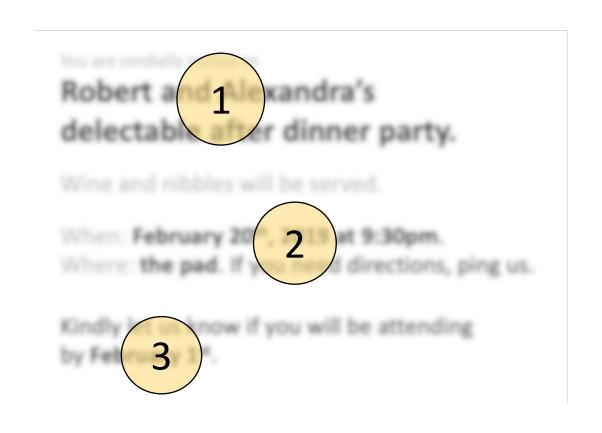
What the concept? **Drying instructions**

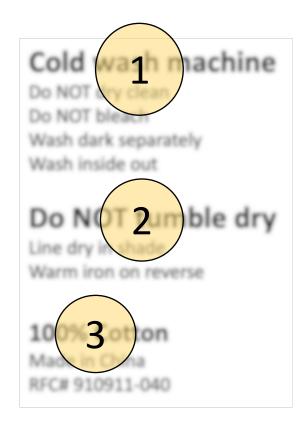
100% Cotton Made in China RFC# 910911-040 What the concept?

Manufacturing instructions



Visual Information hierarchy guides users' attention





Color, Typography, Gestalt

No screens



Prof. Lydia Chilton COMS 4170 4 February 2019



The human brain is always interpreting meaning, even if it's not there.

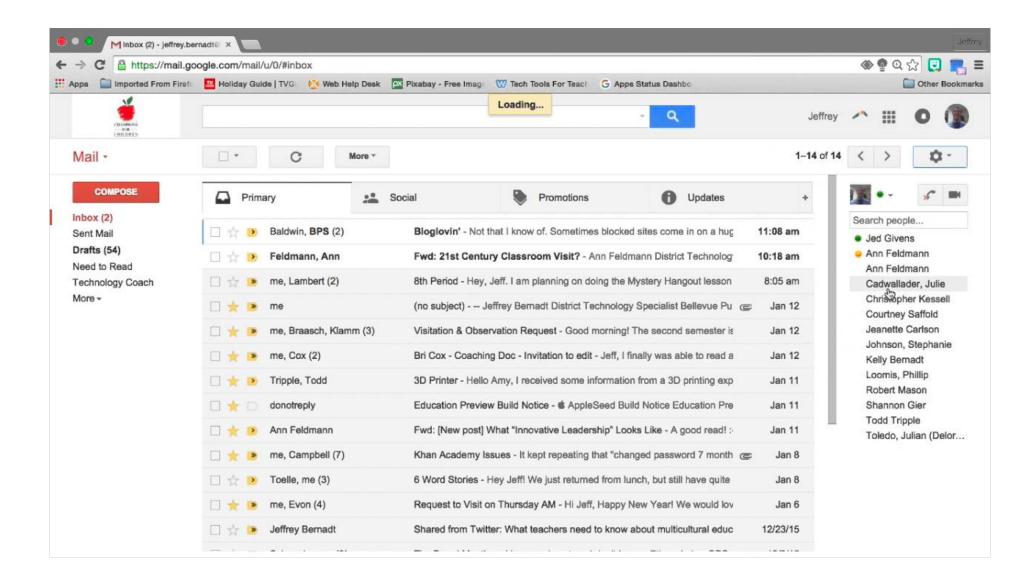


Color

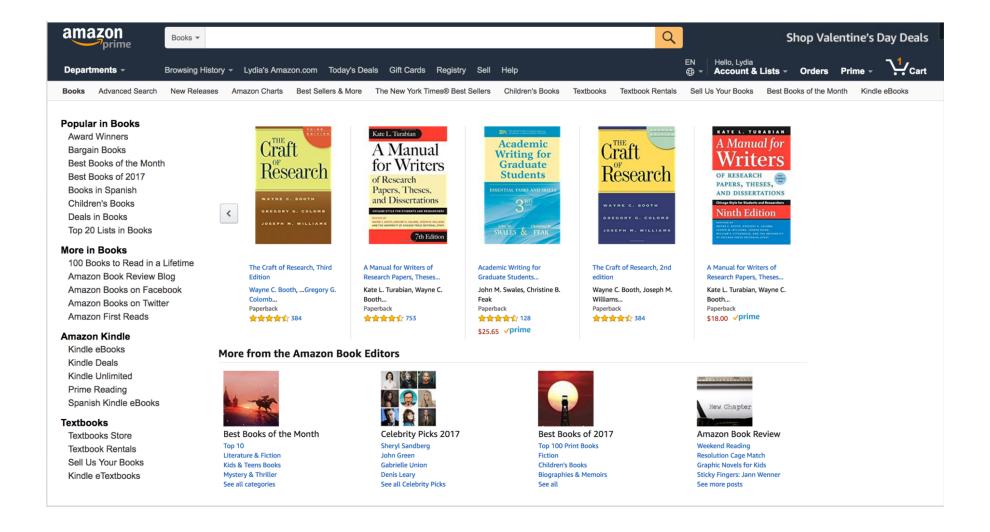
In addition to signaling importance, colors have meaning.



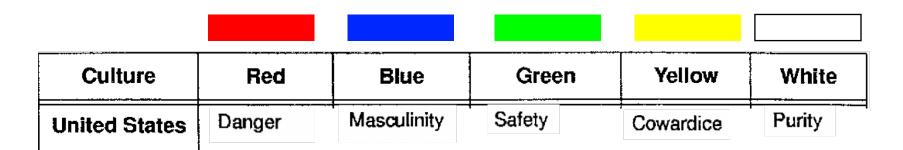
Where is color used? What does it mean?



Where is color used? What does it mean?



What are your associations with these colors?



And the associations in France?

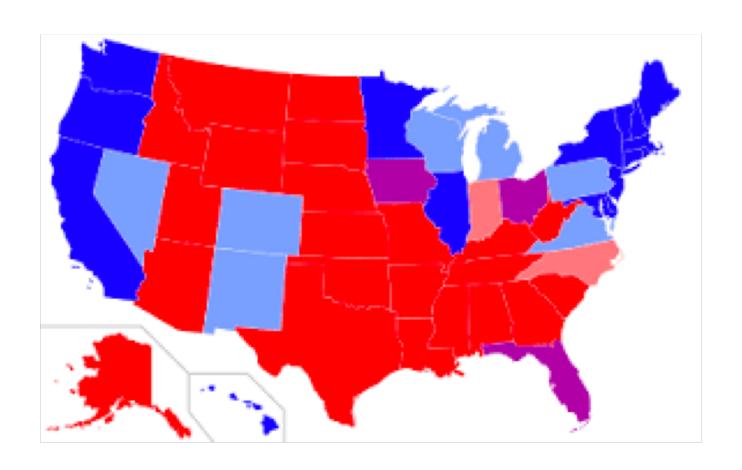
Culture	Red	Blue	Green	Yellow	White
United States	Danger	Masculinity	Safety	Cowardice	Purity
France	Aristocracy	Freedom Peace	Criminality	Temporary	Neutrality



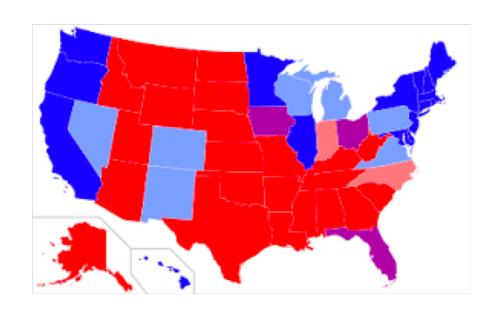
Do you see any contradictions?

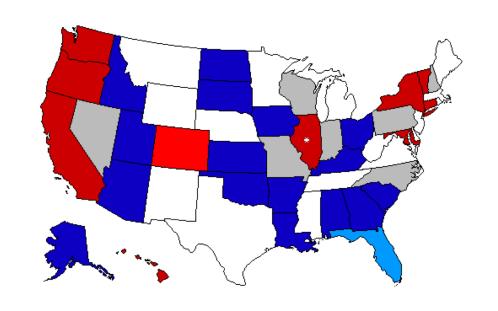
Culture	Red	Blue	Green	Yellow	White
United States	Danger	Masculinity	Safety	Cowardice	Purity
France	Aristocracy	Freedom Peace	Criminality	Temporary	Neutrality
Egypt	Death	Virtue Faith Truth	Fertility Strength	Happiness Prosperity	Joy
India	Life Creativity		Prosperity Fertility	Success	Death Purity
Japan	Anger Danger	Villainy	Future Youth Energy	Grace Nobility	Death
China	Happiness	Heavens Clouds	Ming Dynasty Heavens Clouds	Birth Wealth Power	Death Purity

What cultural associations do these colors have?



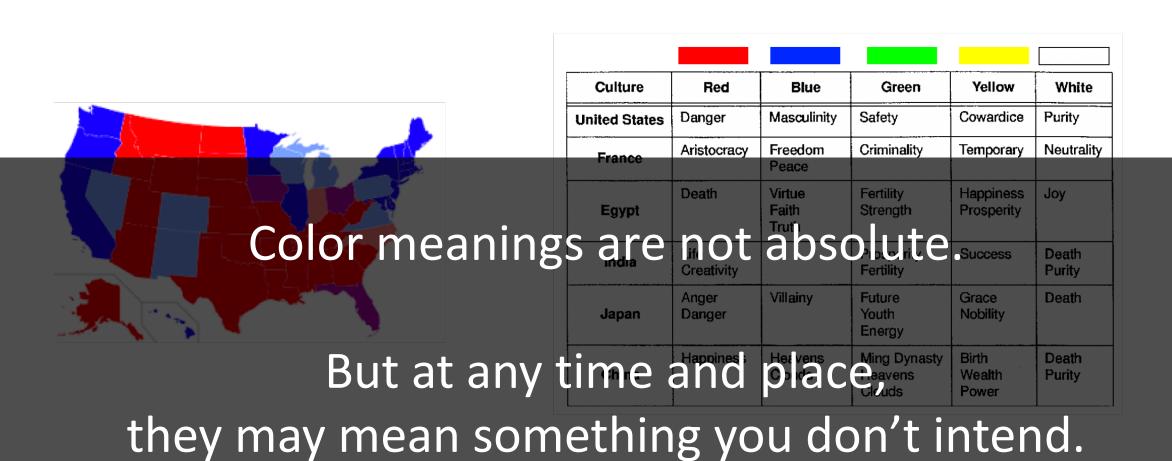
What cultural associations do these colors have?





2016 1992

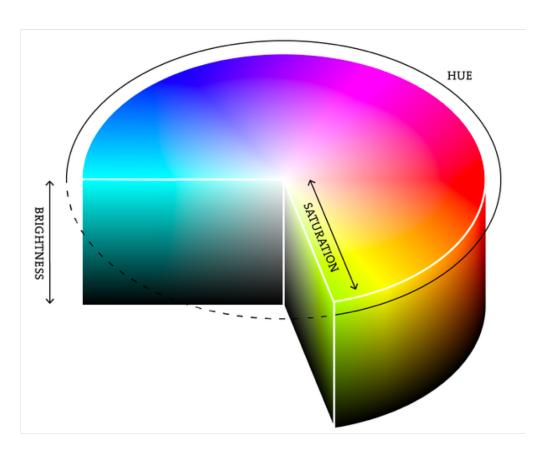
Are color meanings arbitrary?



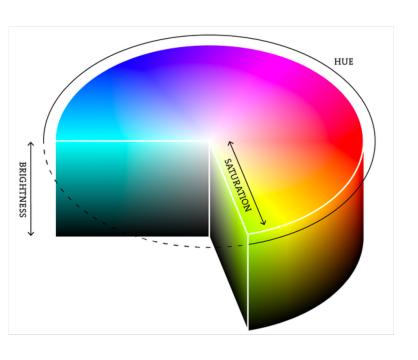
Color Representation

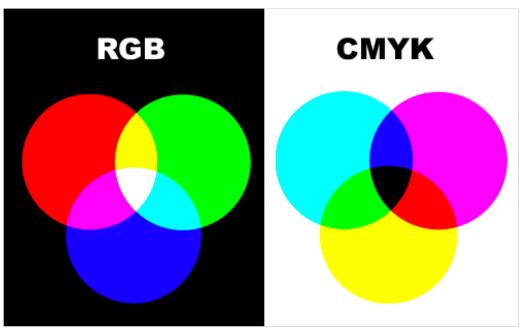
There are three perceptual dimensions of color: HSV – Hue, Saturation, Value (Brightness)

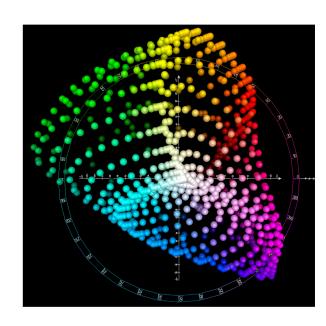




There are many ways to represent Color







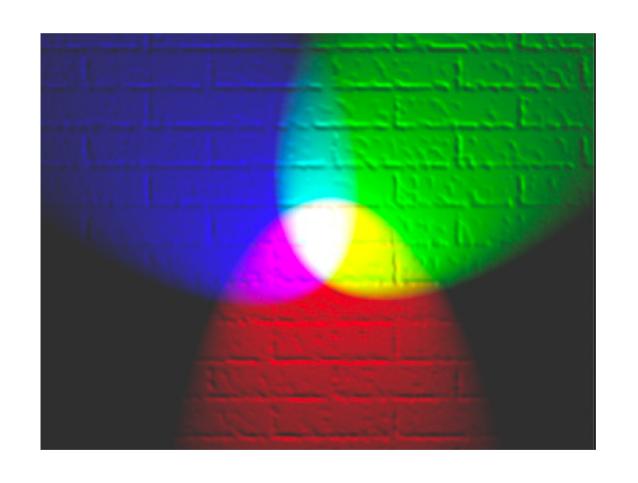
Hue, Saturation, Value

Red, Green, Blue

Cyan, Magenta, Yellow (Black)

Luminosity, a, b

The web uses represents color in RGB



If you have have

Red: **0**, Green: **0**, Blue: **0**

What color will you get?

If you have have

Red: **100%**

Green: 100%

Blue: 100%

What color will you get?

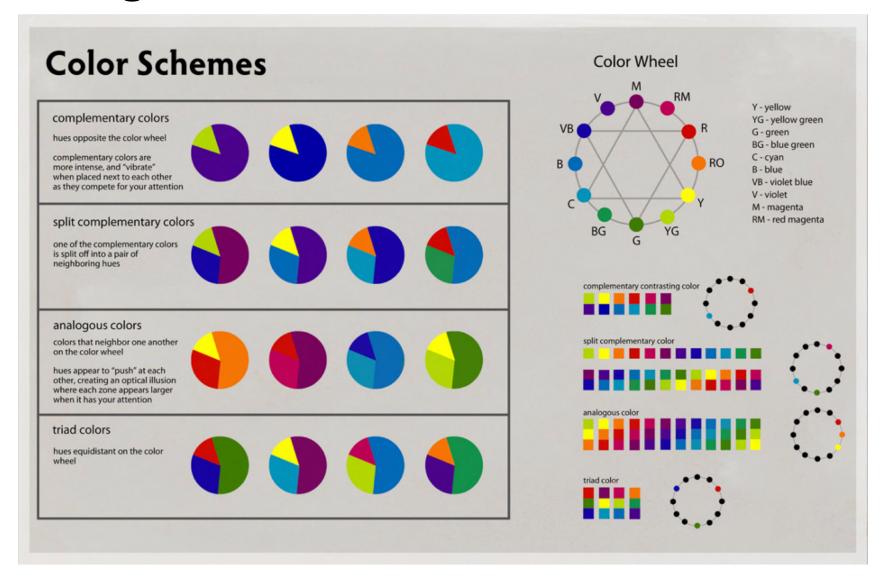
Black



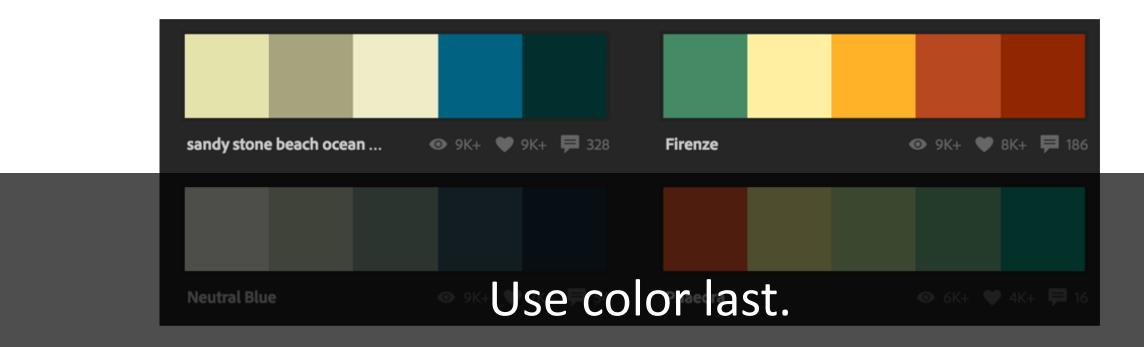
Ways to specify a color in HTML

```
.blue_text{
   color: blue;
.blue_text{
   color: rgb(0,0, 255);
.blue_text{
   color: #0000FF;
.blue_transparent_text{
   color: rgba(0,0, 255, 0.5);
```

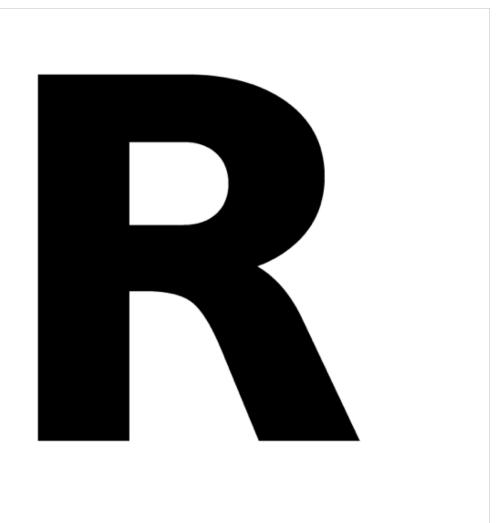
Choosing color combinations



If you are not a color expert, let an expert pick for you



Typography



Gill Sans, designed by Eric Gill and released by the Monotype Corporation in 1928

Six Typographic terms



S Point size

SS

Gill Sans Calibri

S Leading
S Dographic lens

Six \ x-height

Typefaces with high x-height: easier to read at small point size

Typefaces with low x-height: harder to read at small point size

ascenders

Six Typographic Terms

descenders

Six Typographic Terms

light regular bold

weight

Weights and Styles

Roboto Thin & Thin Oblique

Roboto Light & Light Oblique

Roboto Regular & Oblique

Roboto Medium & Medium Oblique

Roboto Bold & Bold Oblique

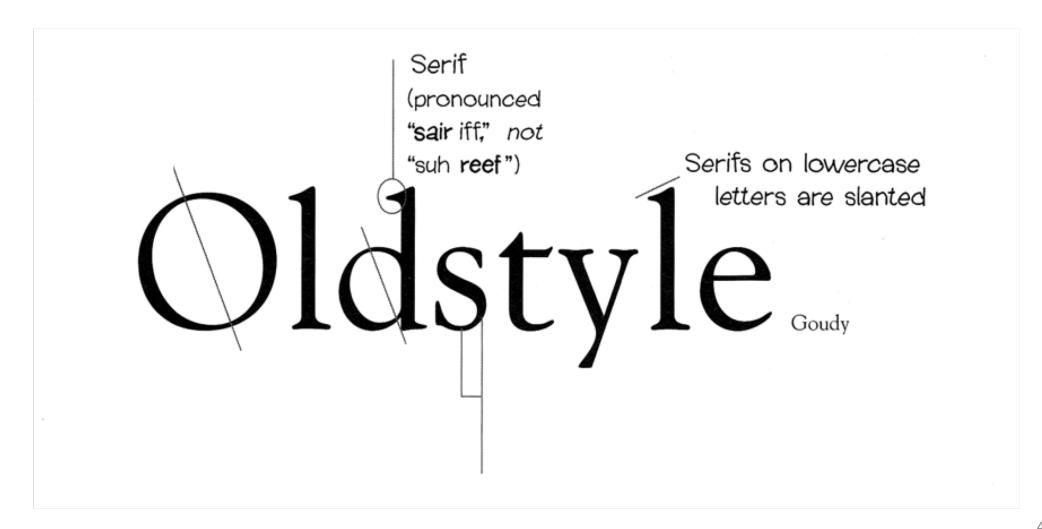
Roboto Black & Black Oblique

Roboto Condensed Light & Condensed Light Oblique

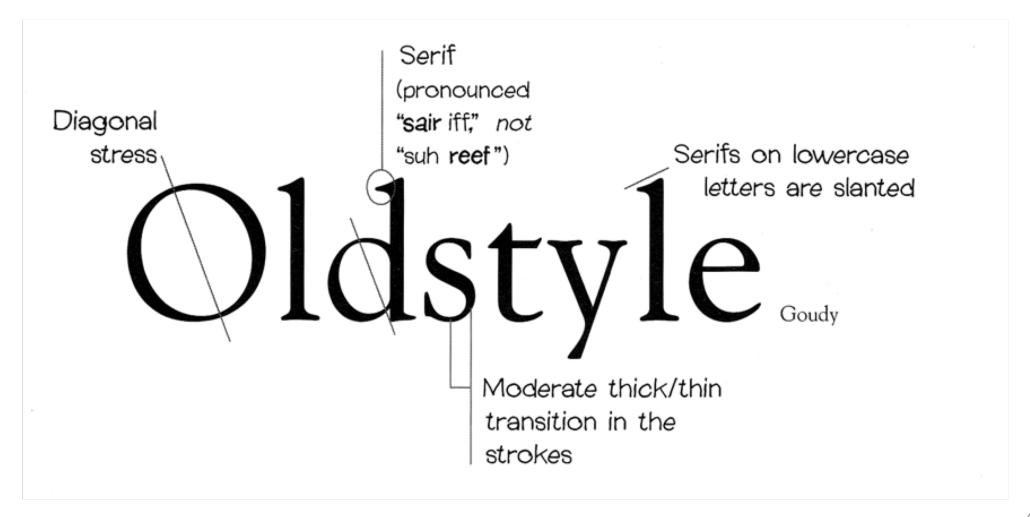
Roboto Condensed & Condensed Oblique

Roboto Condensed Bold & Condensed Bold Oblique

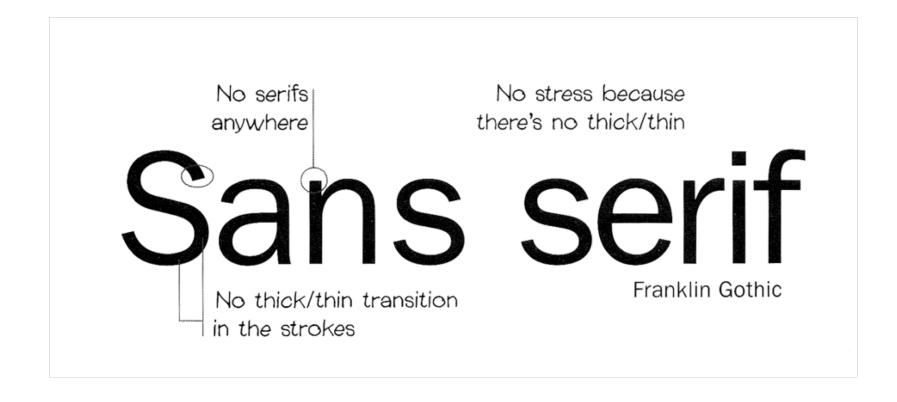
Serifs



Serifs – there's more!



Sans serifs



The Serif Hypothesis

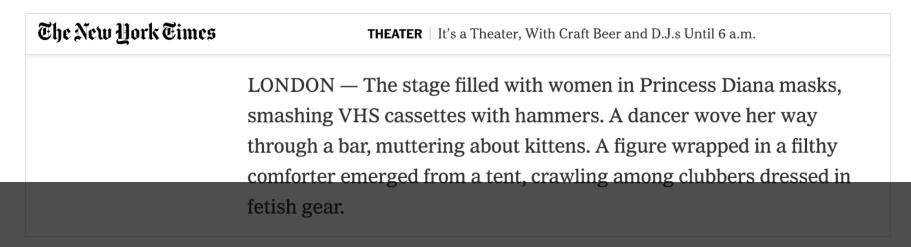
Serif fonts are faster to read.

The little hooks indicate where your eyes should move next.

There is no evidence to support this.

Any differences in reading speed are dwarfed by individual differences, or familiarity.

Who follows the Serif Hypothesis?





Mixing fonts: Concordant fonts

Typography

FROM WIKIPEDIA, THE FREE ENCYCLOPEDIA

Typography is the art and technique of arranging type, type design, and modifying *type glyphs*. Type glyphs are created and modified using a variety of illustration techniques. The arrangement of type involves the selection of typefaces, point size, line length, leading (line spacing), adjusting the spaces between groups of letters (tracking) and adjusting the space between pairs of letters (kerning).

Adobe Caslon Semibold 48 pt

Adobe Caslon Smallcaps, 14 pt

Adobe Caslon Regular, 12 pt

Mixing fonts of the same font-family is great.

Mixing fonts: Contrasting fonts

Typography

From Wikipedia, the free encyclopedia

Typography is the art and technique of arranging type, type design, and modifying *type glyphs*. Type glyphs are created and modified using a variety of illustration techniques. The arrangement of type involves the selection of typefaces, point size, line length, leading (line spacing), adjusting the spaces between groups of letters (tracking) and adjusting the space between pairs of letters (kerning).

Gill Sans Light 48 pt

Gill Sans Light, 16 pt

UC Berkeley OldStyle, 12 pt

Mixing San Serif and Serif is ok. (But edgier)

Mixing fonts: Conflicting fonts

Typography

From Wikipedia, the free encyclopedia

Typography is the art and technique of arranging type, type design, and modifying type glyphs. Type glyphs are created and modified using a variety of illustration techniques. The arrangement of type involves the selection of typefaces, point size, line length, leading (line spacing), adjusting the spaces between groups of letters (tracking) and adjusting the space between pairs of letters (kerning).

Arial 36 pt

Futura Medium, 14 pt

Myriad Regular, 12 pt

Mixing multi San Serif or Serif fonts is bad. It doesn't look intentional.

Users have connotations for fonts

Baskerville

The Literary
Magazine for
Gifted Kids &
Their Families

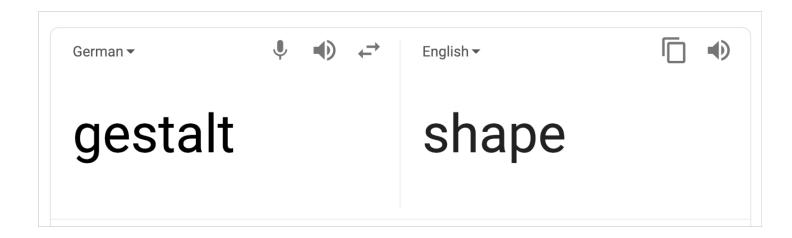


What connotation does this font have?

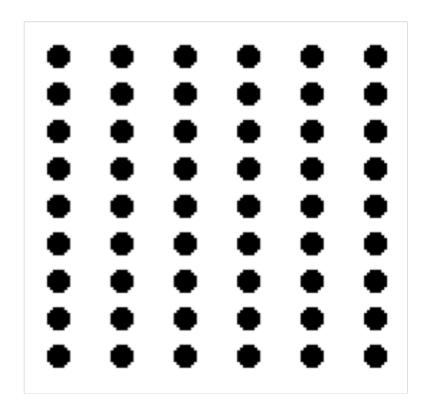


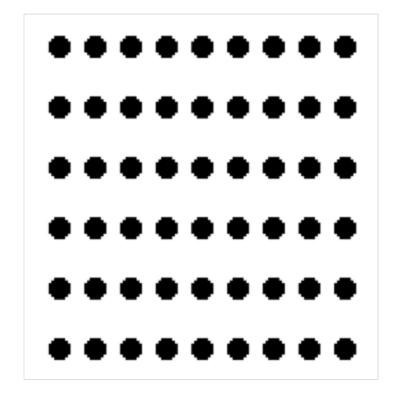
Eight Gestalt Principles

ge·stalt /gəˈSHtält/ noun PSYCHOLOGY an organized whole that is perceived as more than the sum of its parts.



Proximity

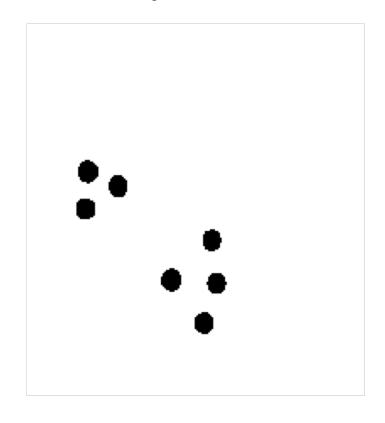


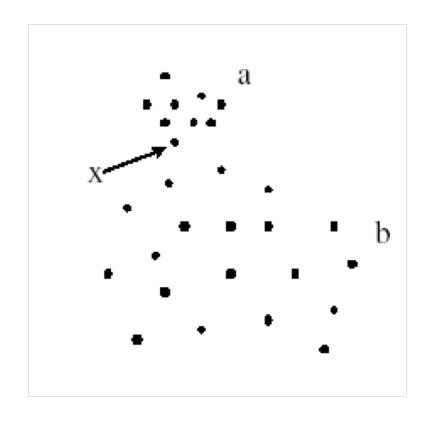


Dots appear as columns

Dots appear as rows

Proximity

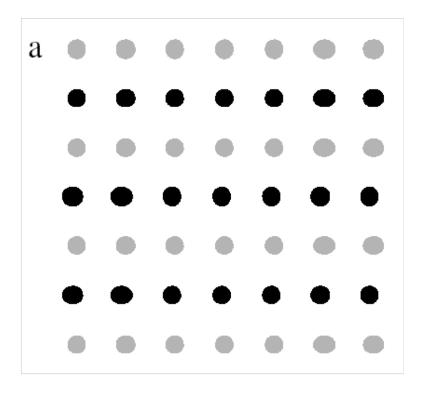


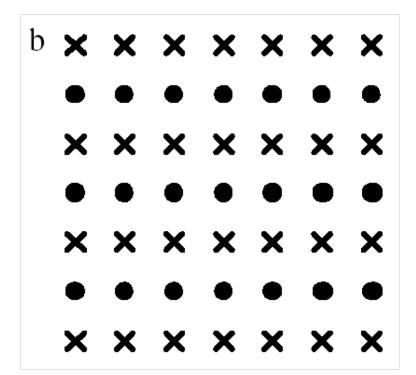


Dots appear as two groups

X is in group a.

Similarity





How is similarity used to convey meaning?

Tuesday, November 4 —Election Day

An American Menu \$75

Caesar salad with anchovies, egg, and Parmesan cheese

Clam chowder with Maine lobster and pancetta

Grilled chicken with house-made barbeque sauce with potato purée and greens

Apple and raspberry pecan crisp with vanilla ice cream

TUESDAY, NOVEMBER 4 — ELECTION DAY

AN AMERICAN MENU \$75

Caesar salad

with anchovies, egg, and Parmesan cheese

Clam chowder

with Maine lobster and pancetta

Grilled chicken

with house-made barbeque sauce with potato purée and greens

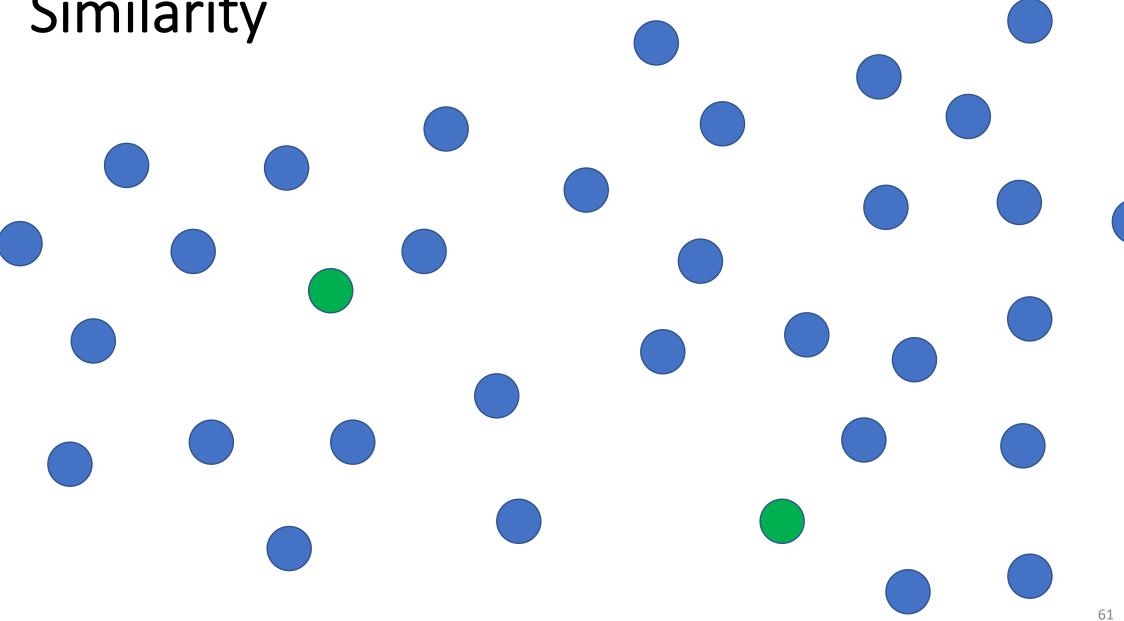
Apple and raspberry pecan crisp with vanilla ice cream

Gestalt Principle #2:

Similarity

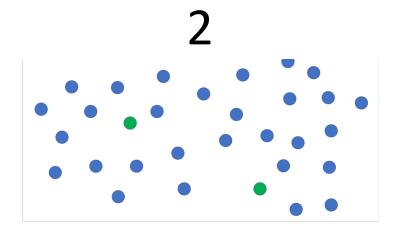
How many green circles are there?

Similarity



Similarity

How many green circles are there?

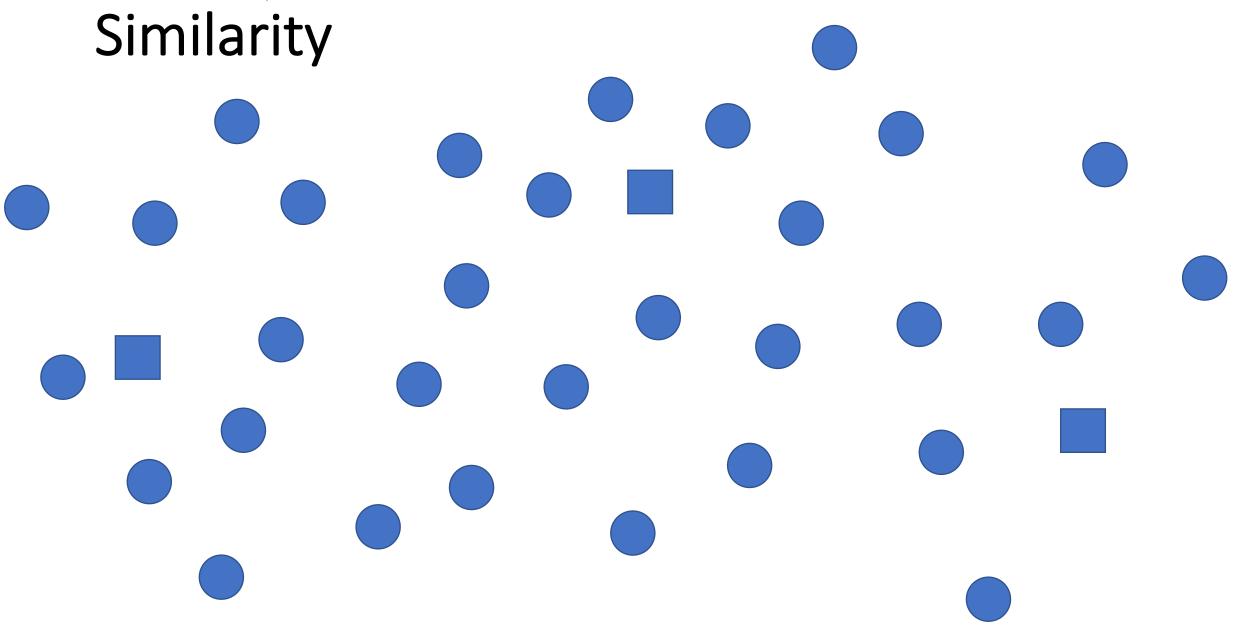


Gestalt Principle #2:

Similarity

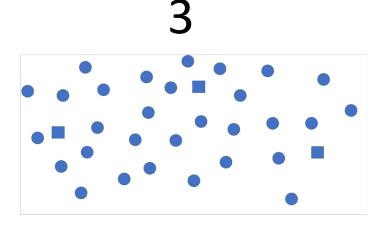
How many **rectangles** are there?

Gestalt Principle #2:



Similarity

How many **rectangles** are there?

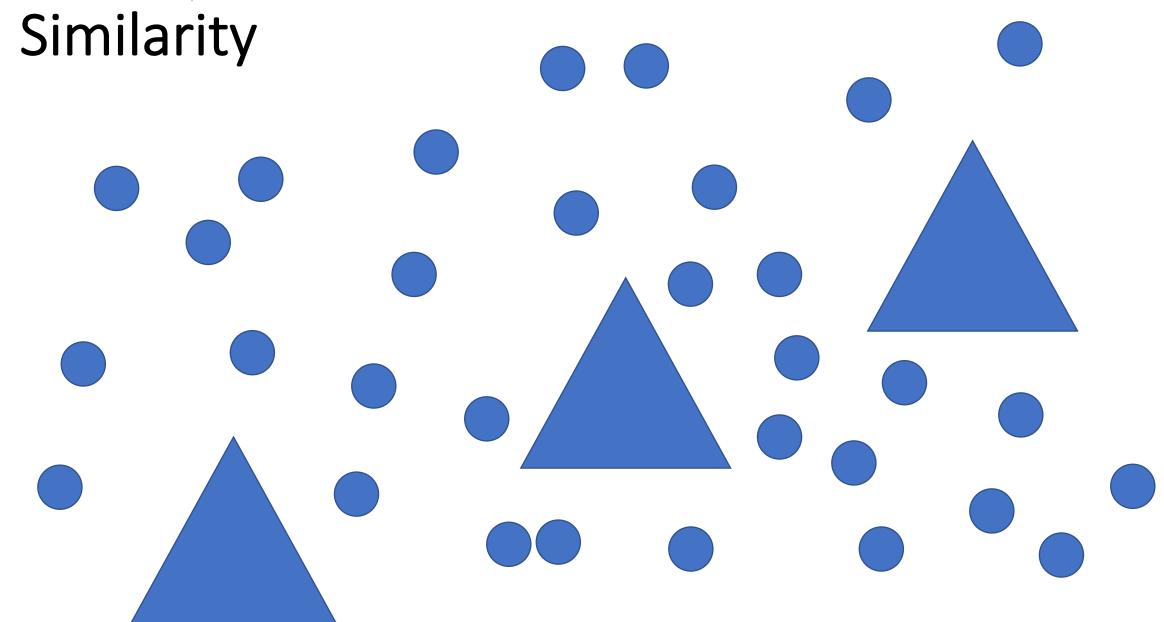


Shapes are hard to scan for

Gestalt Principle #2:

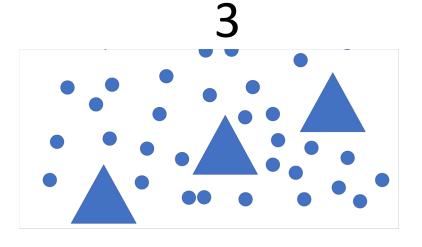
Similarity

How many **triangles** are there?



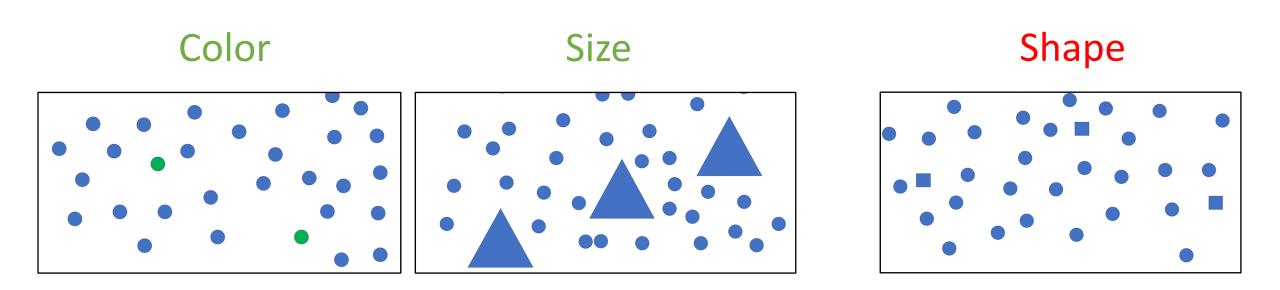
Similarity

How many triangles are there?



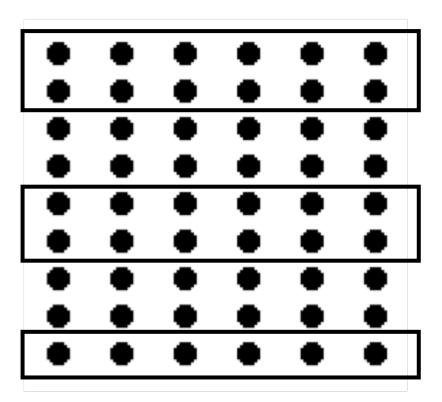
Size is easy to scan for

What properties are easy to scan for similarity?

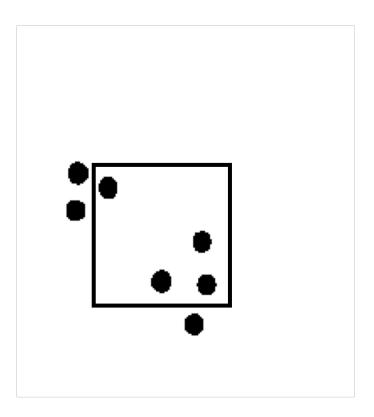


Color and Size scans better than shape

Enclosure



Enclosure



Symmetry

[]{]



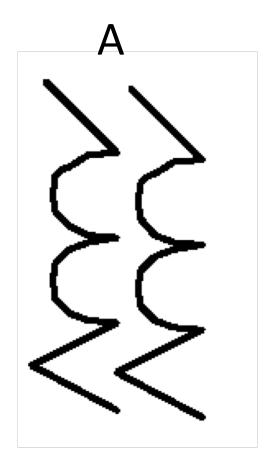
Proximity indicates 4 groups

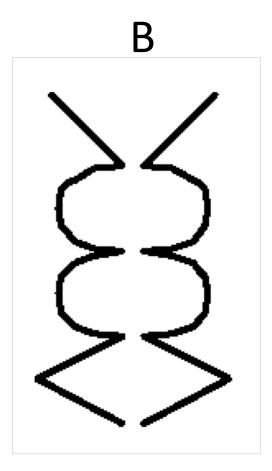


Symmetry indicates 3 groups

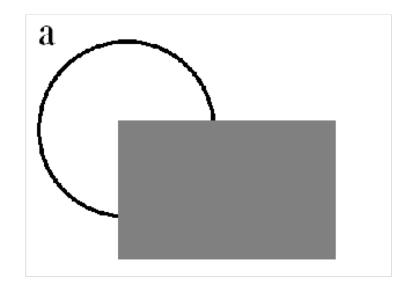
Symmetry





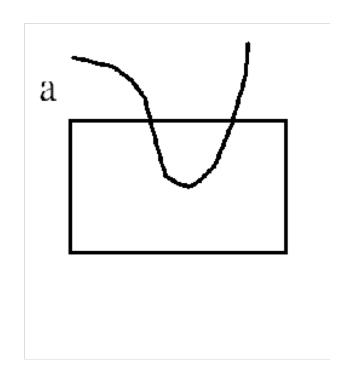


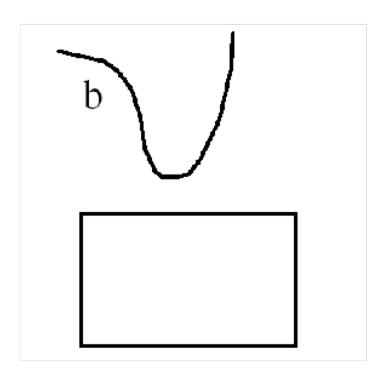
Closure

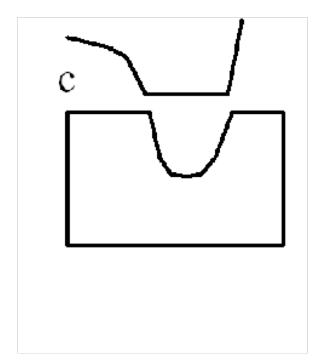




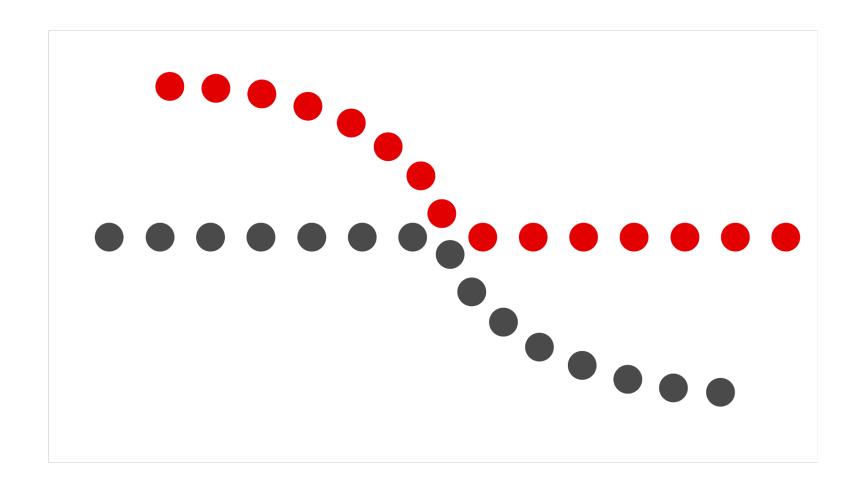
Continuity







Continuity



Connection

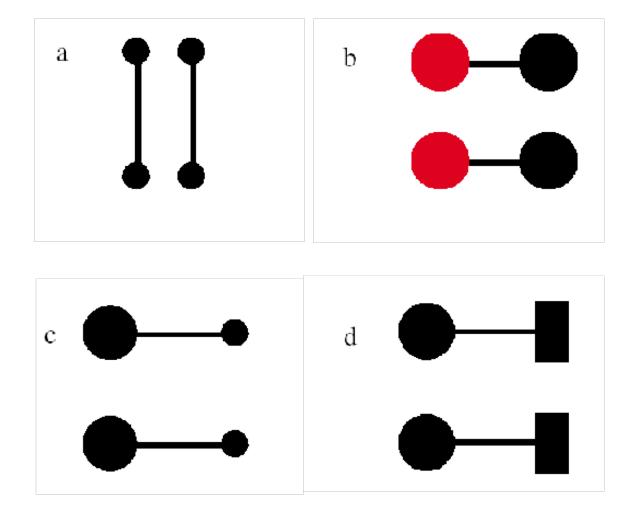
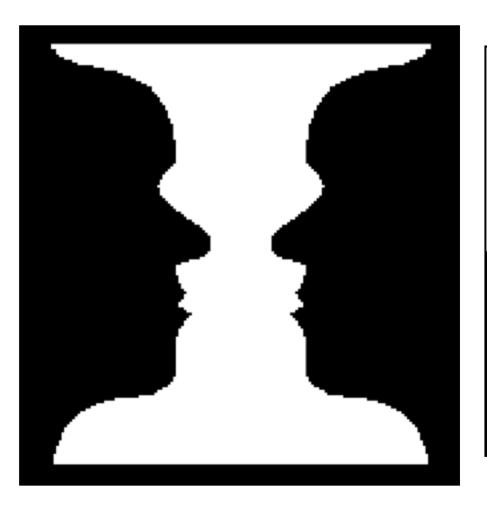
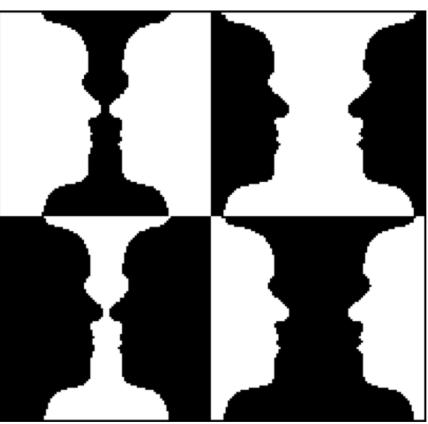
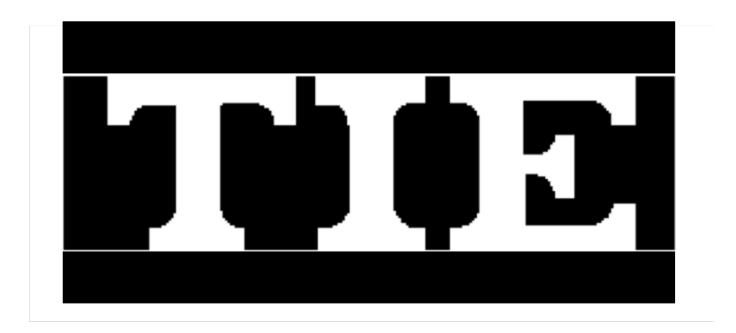


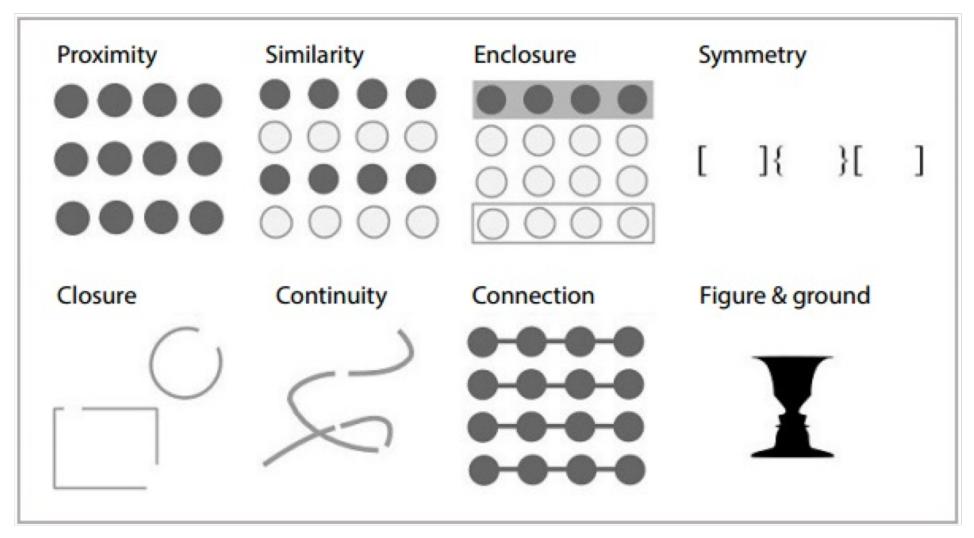
Figure and Ground



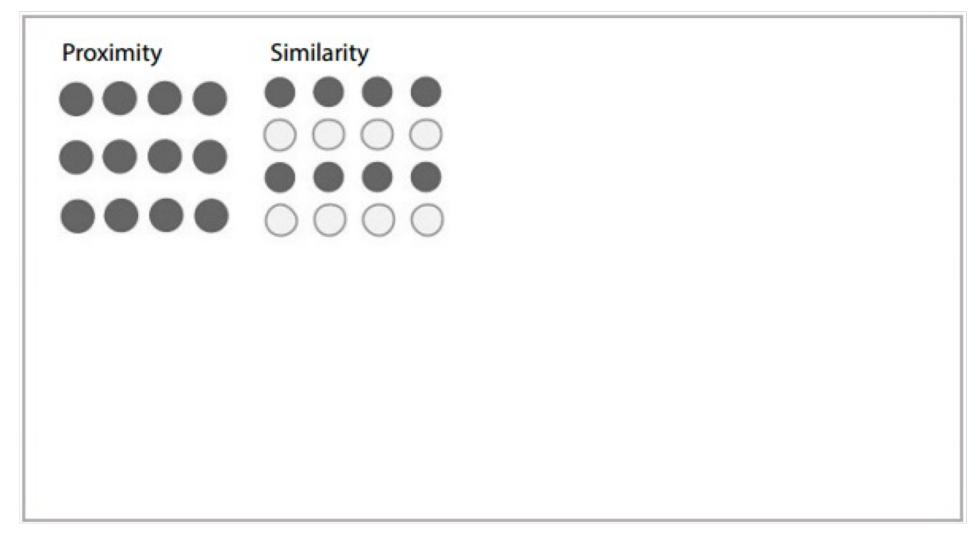




8 Gestalt Principles



2 Gestalt Principles I actually use



I use proximity and color/contrast similarity

Tuesday, November 4 — Election Day

An American Menu \$75

Caesar salad with anchovies, egg, and Parmesan cheese

Clam chowder with Maine lobster and pancetta

Grilled chicken with house-made barbeque sauce with potato purée and greens

Apple and raspberry pecan crisp with vanilla ice cream

TUESDAY, NOVEMBER 4 — ELECTION DAY

AN AMERICAN MENU

Caesar salad

with anchovies, egg, and Parmesan cheese

Clam chowder

with Maine lobster and pancetta

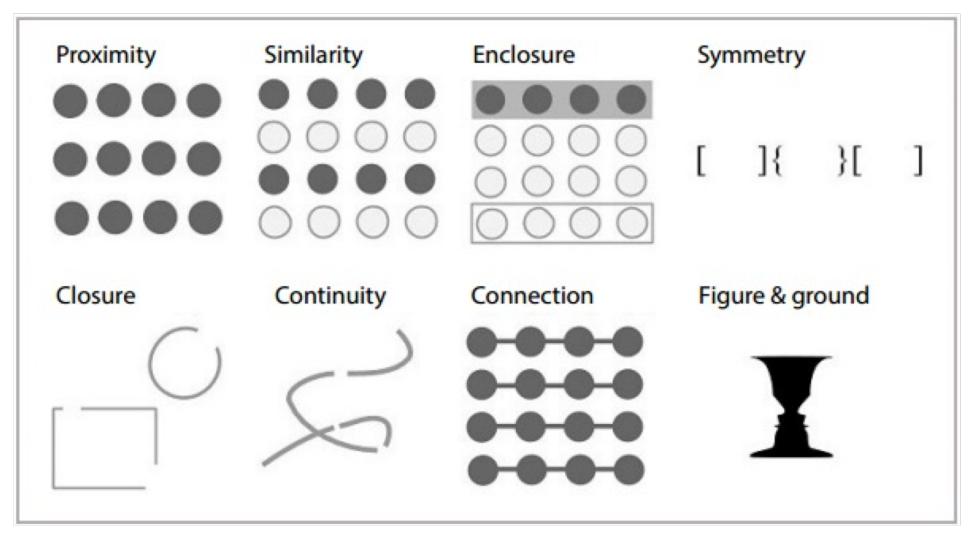
Grilled chicken

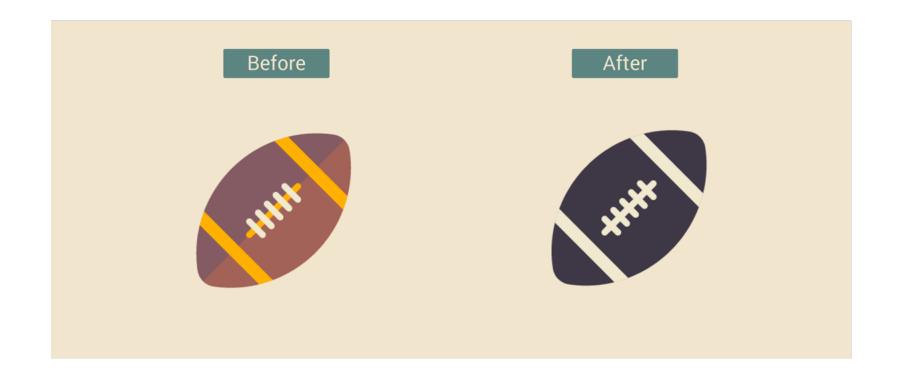
with house-made barbeque sauce with potato purée and greens

Apple and raspberry pecan crisp with vanilla ice cream

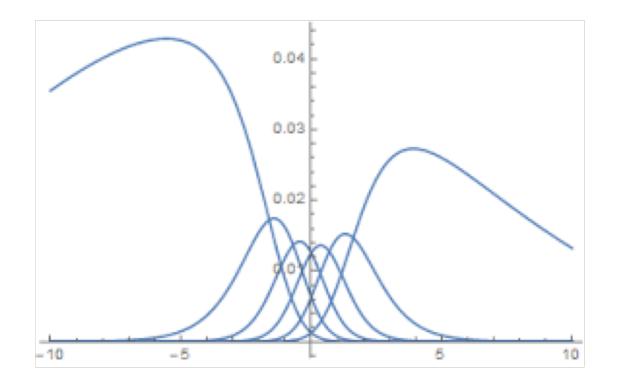
\$75

Quiz: 8 Gestalt Principles



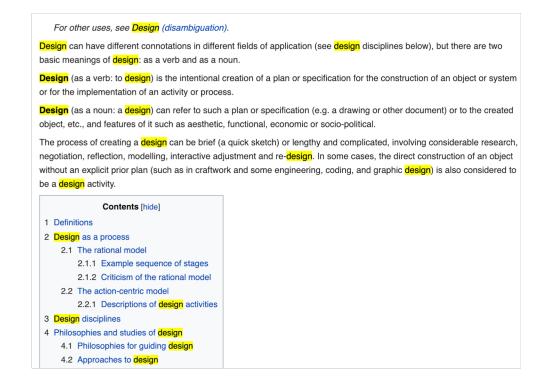


Closure
Our minds fill in missing details



Continuity

Our minds perceive lines and curves as continuing on their trajectory



Similarity of Color It is easy to scan for color



Figure and ground

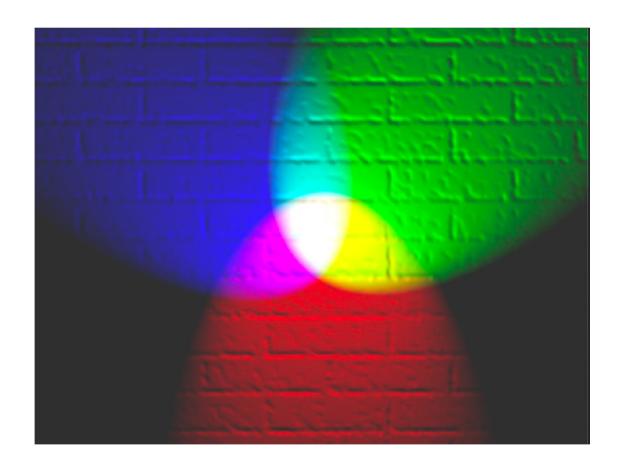
Summary

The human brain is always interpreting meaning, even if it's not there.



Color Meaning and Representation

Culture	Red	Blue	Green
United States	Danger	Masculinity	Safety
France	Aristocracy	Freedom Peace	Criminality
Egypt	Death	Virtue Faith Truth	Fertility Strength
India	Life Creativity		Prosperity Fertility
Japan	Anger Danger	Villainy	Future Youth Energy
China	Happiness	Heavens Clouds	Ming Dynast Heavens Clouds



```
.blue_text{
    color: blue;
}

.blue_text{
    color: rgb(0,0, 255);
}

.blue_text{
    color: #0000FF;
}

.blue_transparent_text{
    color: rgba(0,0, 255, 0.5);
}
```

Typography Terms



Serif fonts are faster to read.

The little hooks indicate where your eyes should move next.

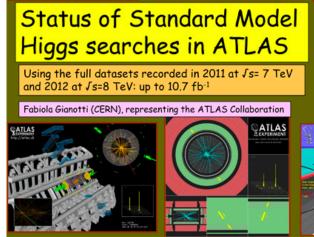
There is no evidence to support this.

Any differences in reading speed are dwarfed by individual differences, or familiarity.

Your font should enhance you message, Not detract from it.

Baskerville

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8 Gestalt Principles

