Color, Typography, and Gestalt

No screens

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COMS 4170

29 January 2018

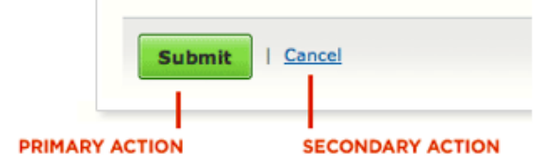
Goal 1

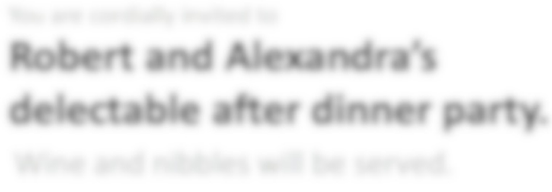
Build websites that suit the needs and abilities of users

The main goal of many websites is to
display information users need.

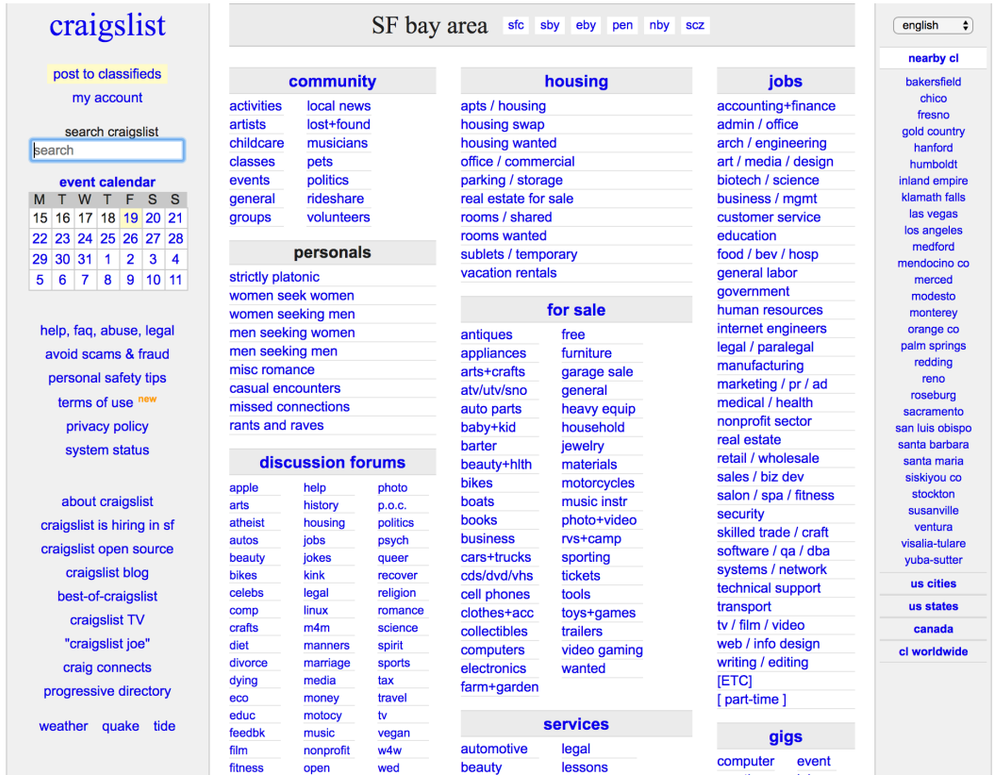
Tools for **indicating importance** in the visual information hierarchy

- Conceptual grouping
- Location
- Whitespace
- Size
- Images
- Contrast
- Color

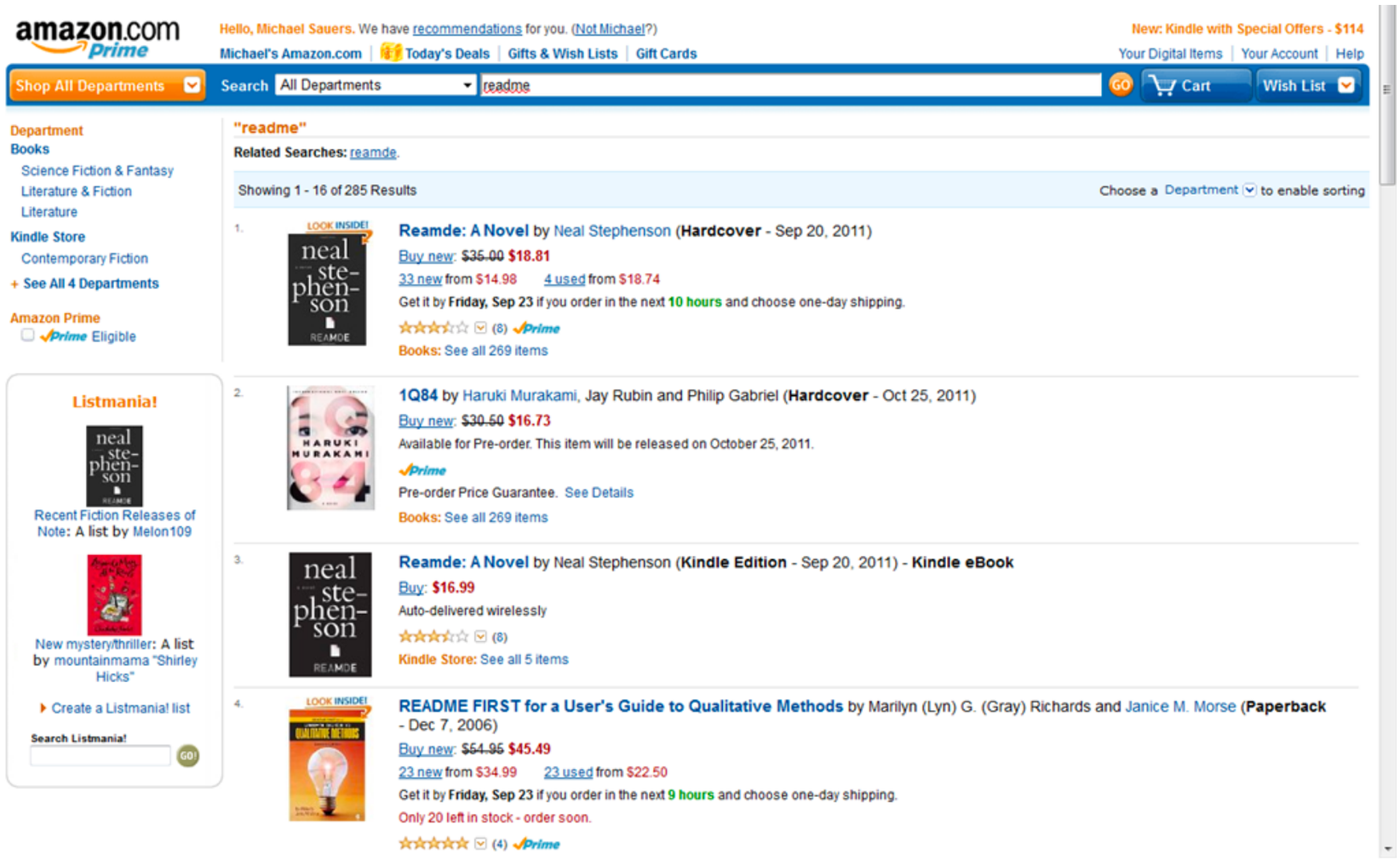




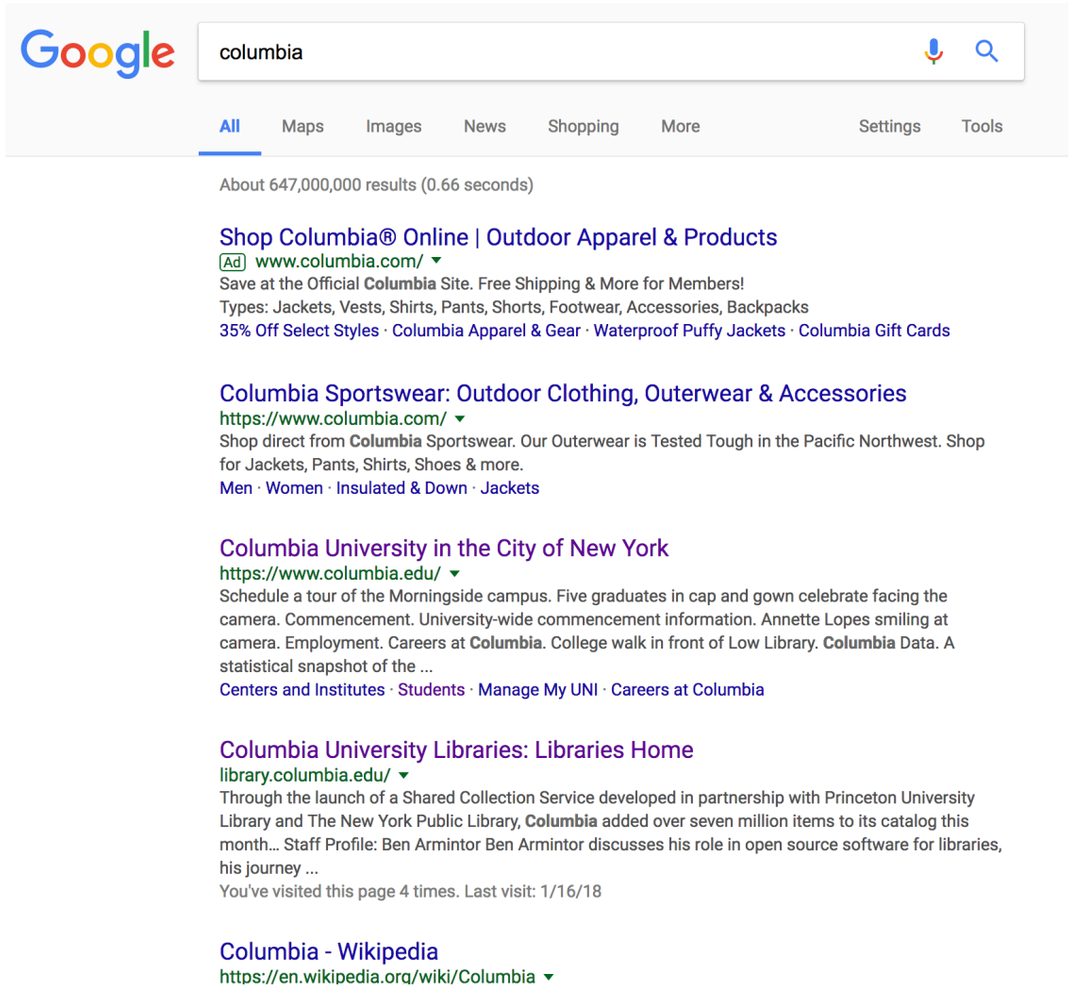
In addition to indicating importance, the colors and fonts you pick will have meaning to users.



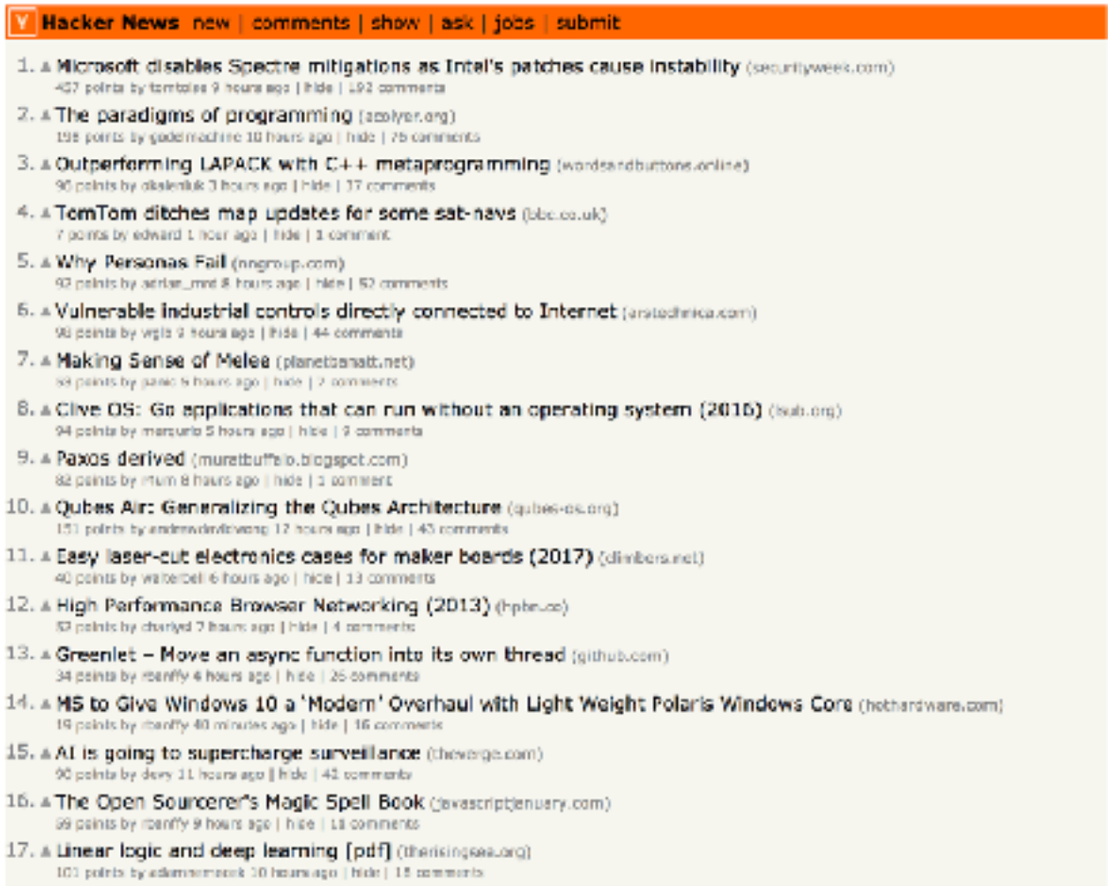
What meaning will these **colors** have to users? (in addition to importance)



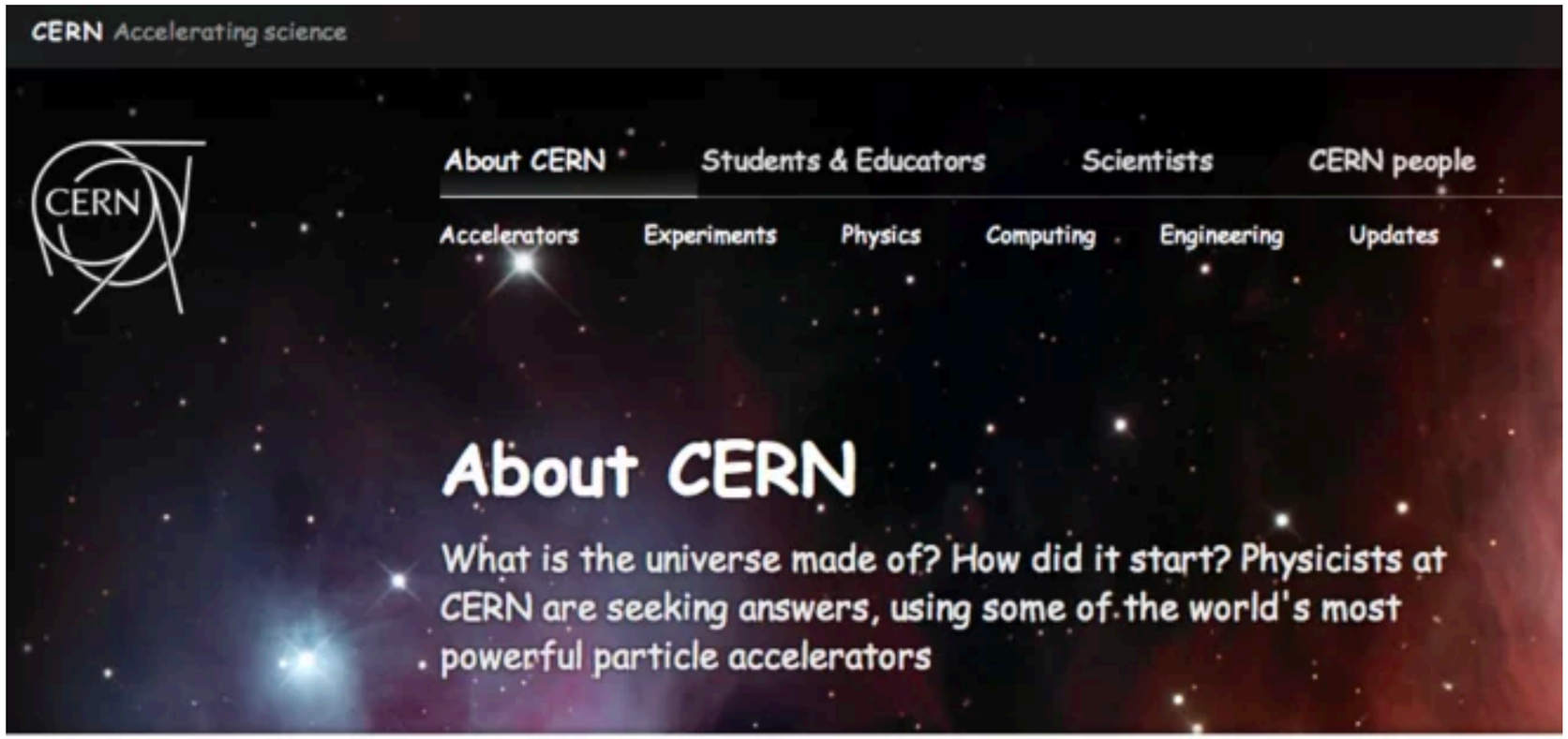
What meaning will these **fonts** have to users? (in addition to importance)



What meaning will these **fonts, colors and design** have to users?



What meaning does this **font** have?



At CERN, the European Organization for Nuclear Research, physicists and engineers are probing the fundamental structure of the universe. They use the world's largest and most complex scientific instruments to study the basic constituents of matter – the fundamental particles. The particles are made to collide together at close to the speed of light. The process gives the physicists clues about how the particles interact, and provides insights into the fundamental laws of nature.

The human brain is always perceiving meaning (even when it is not intended)

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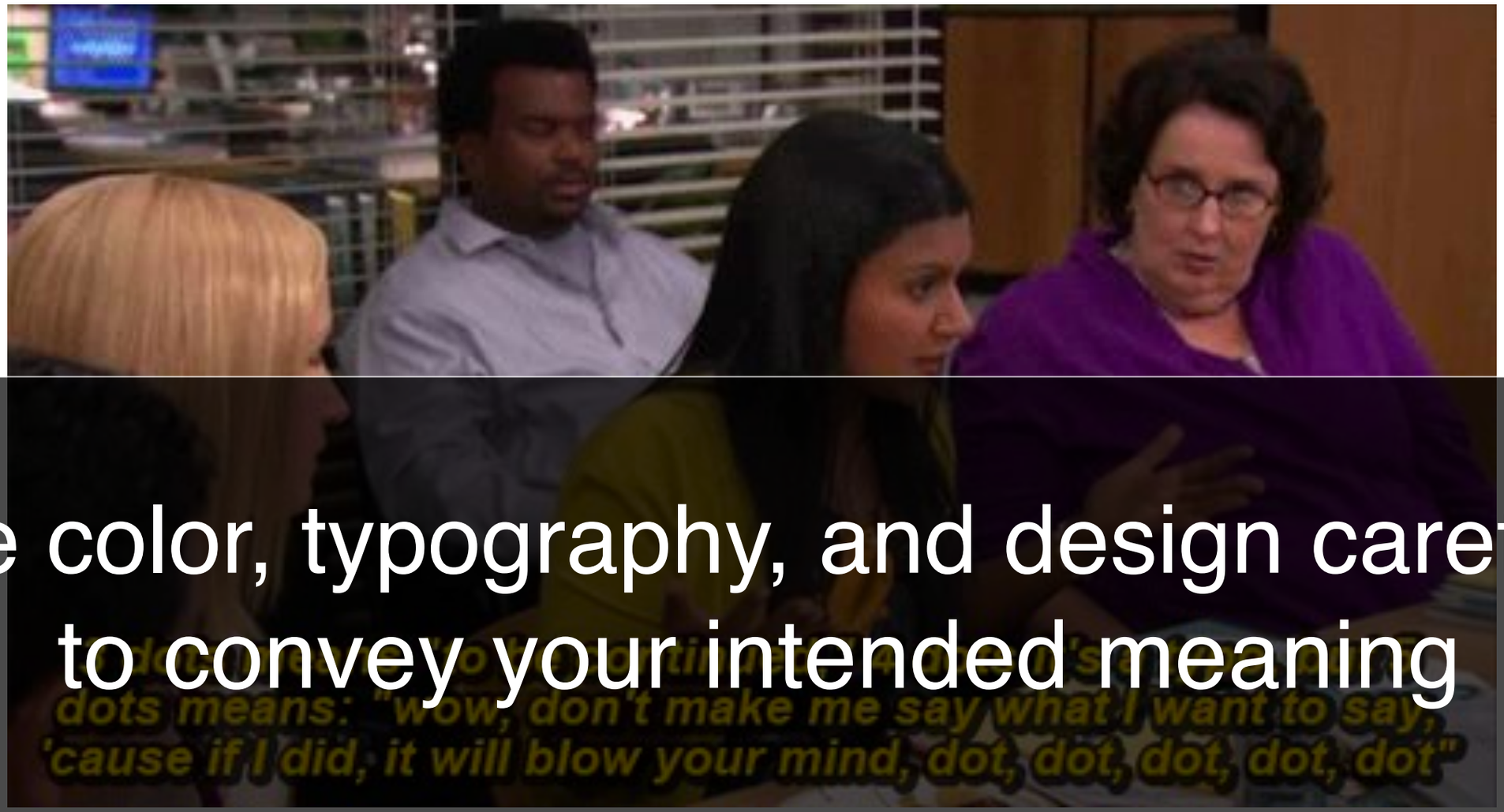


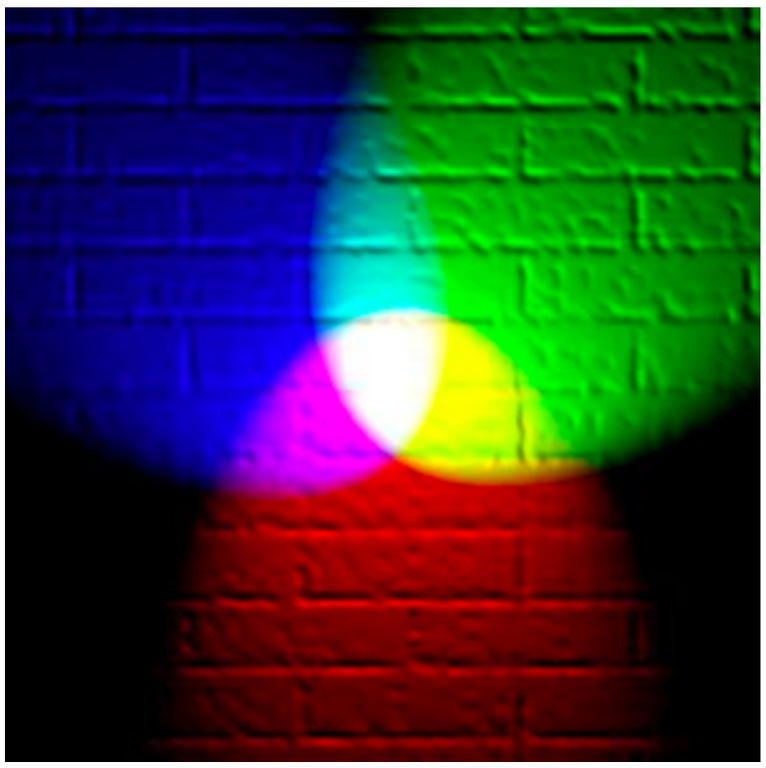
Use color, typography, and design carefully to convey your intended meaning

Color

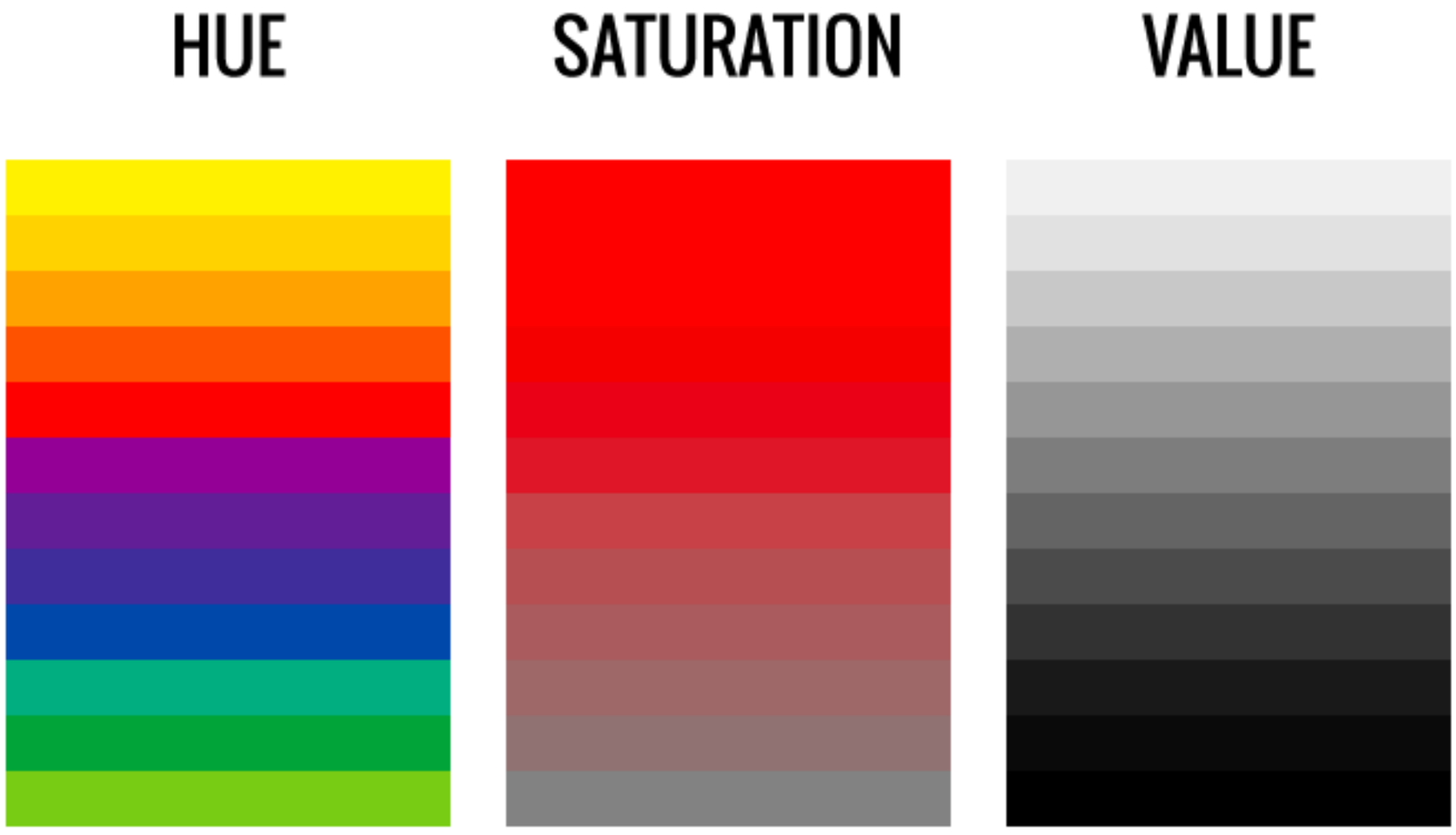
On the web, we mostly use RGB color.

RGB

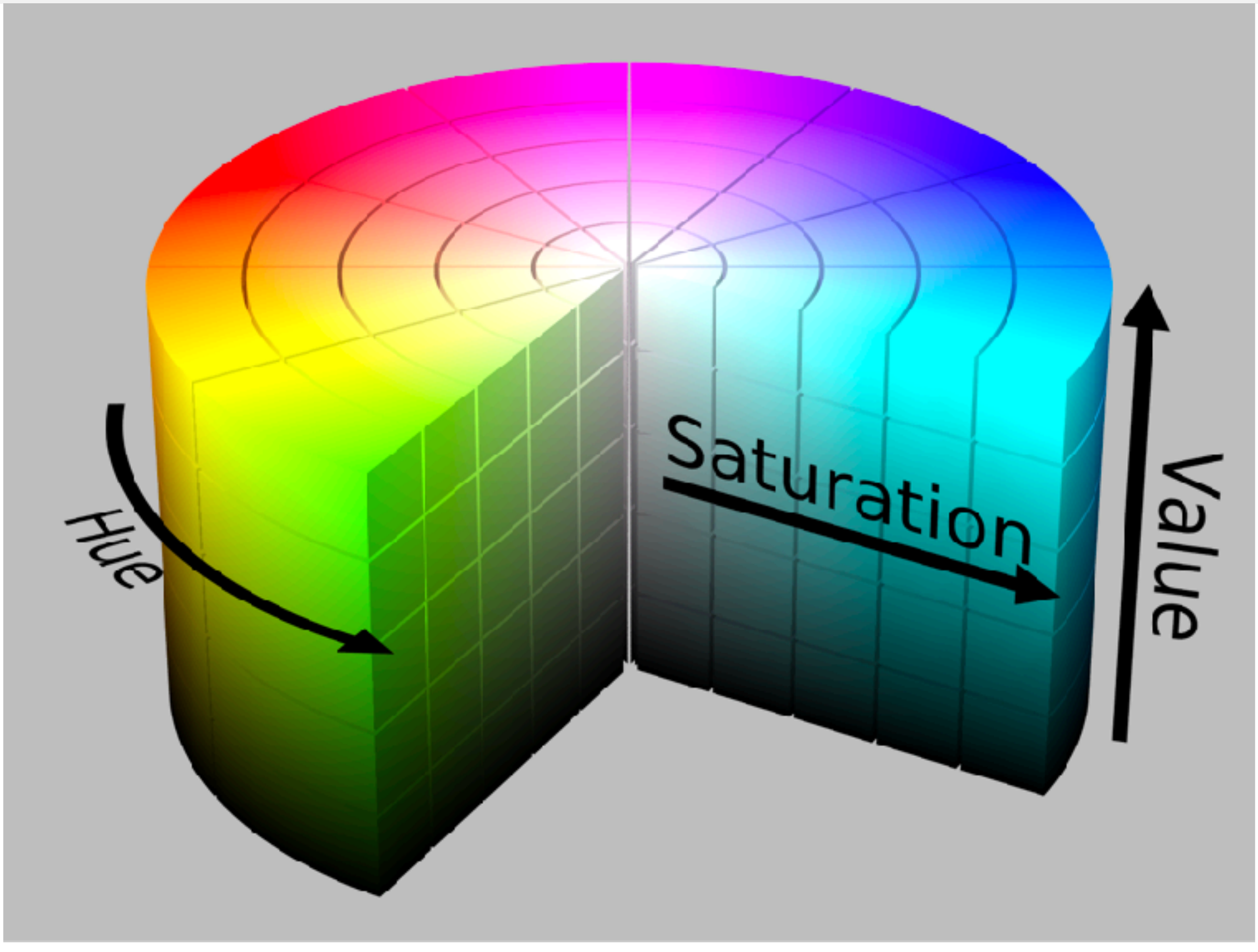
Mixing amounts of
Red, Green and Blue light



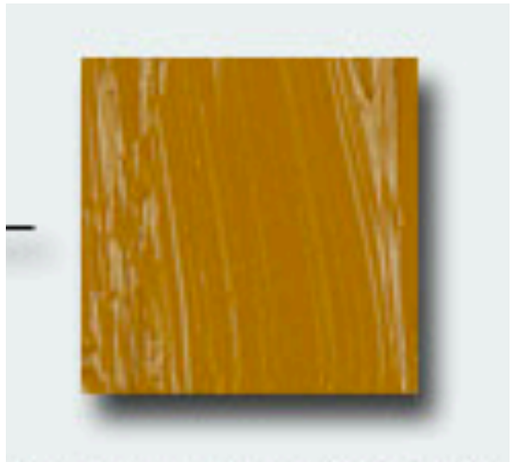
There are three perceptual dimensions of color

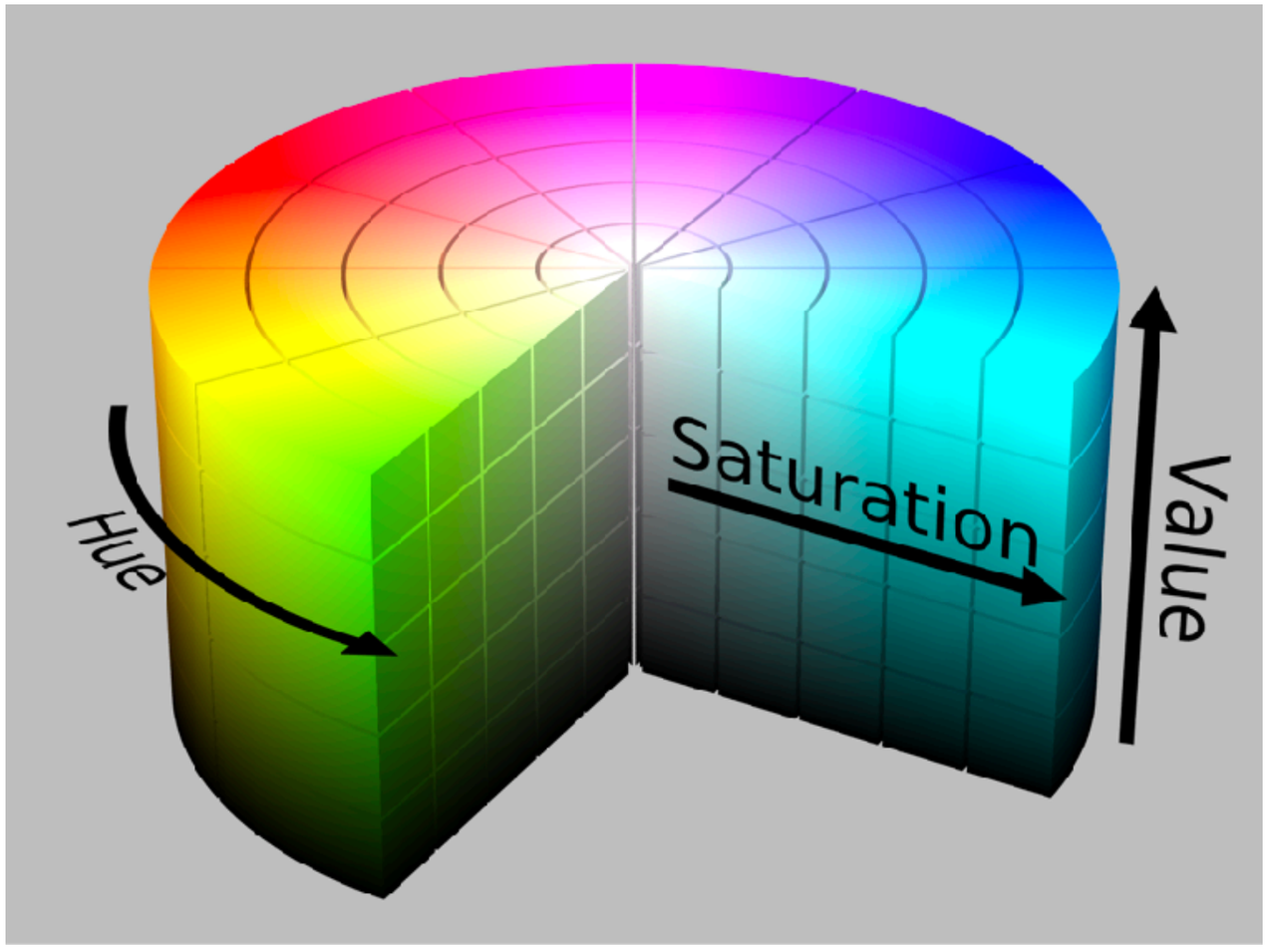


Every color is a point in the HSV space.

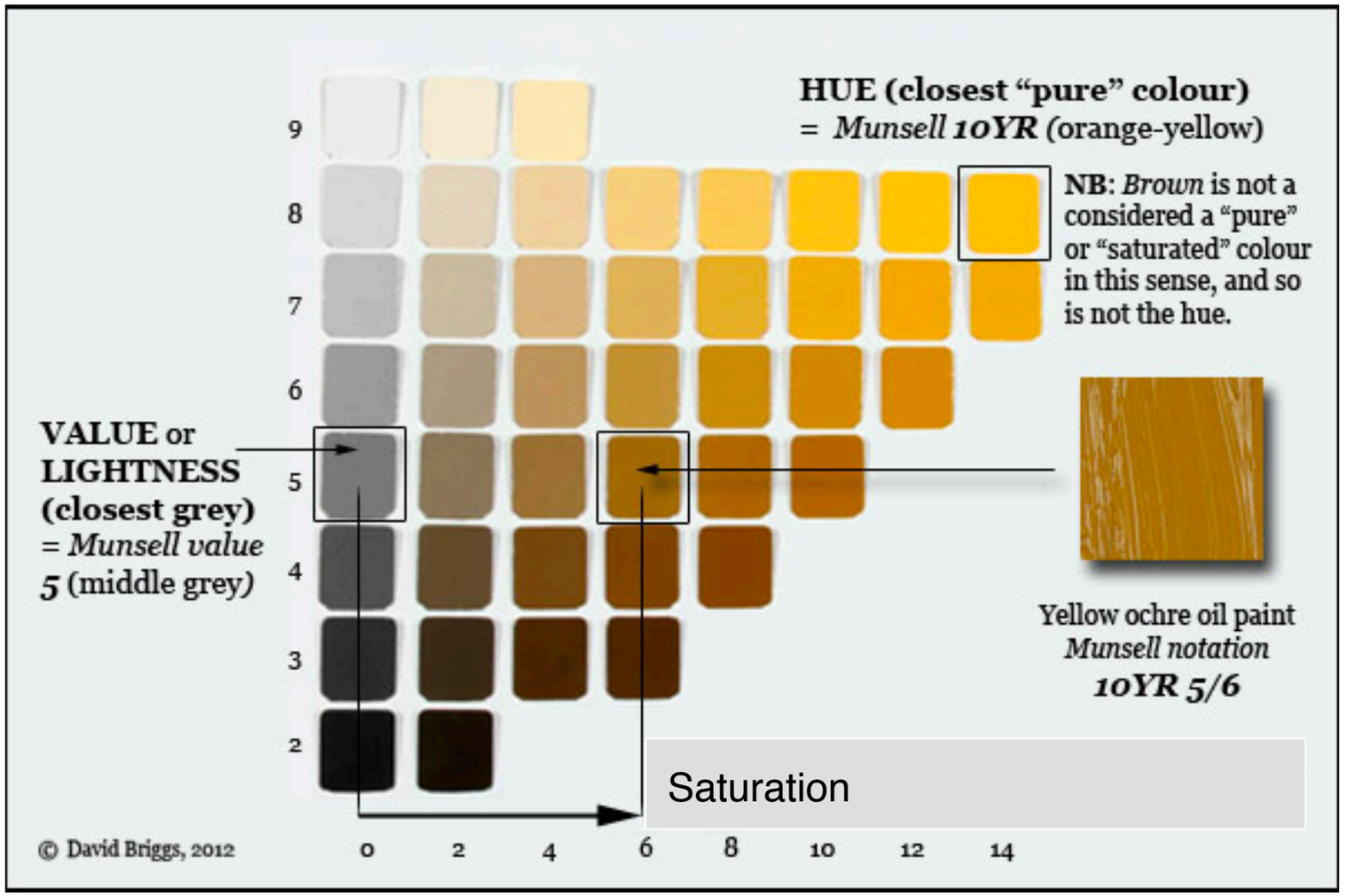


How would we find this color?





From Yellow, how do we get Brown?

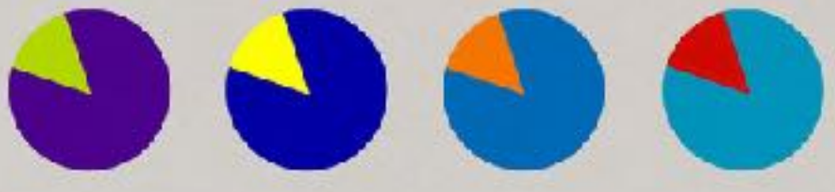


Color Schemes

complementary colors

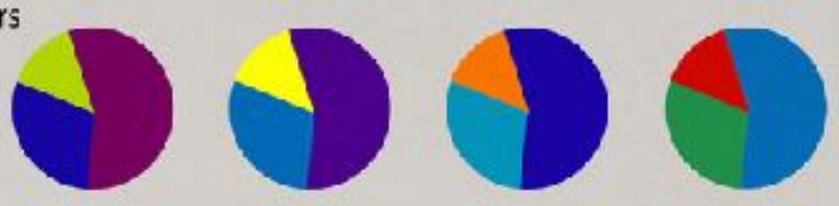
hues opposite the color wheel

complementary colors are more intense, and "vibrate" when placed next to each other as they compete for your attention



split complementary colors

one of the complementary colors is split off into a pair of neighboring hues



analogous colors

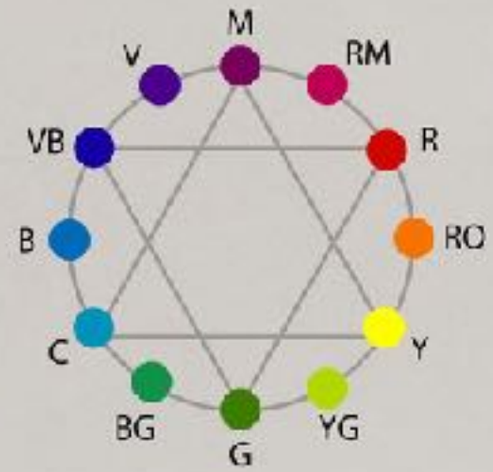
colors that neighbor one another on the color wheel

hues appear to "push" at each other, creating an optical illusion where each zone appears larger when it has your attention

triad colors

hues equidistant on the color wheel

Color Wheel



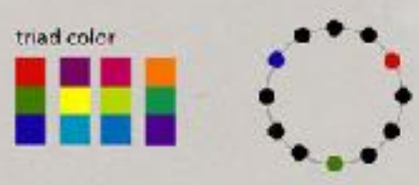
Y - yellow
YG - yellow green
G - green
BG - blue green
C - cyan
B - blue
VB - violet blue
V - violet
M - magenta
RM - red magenta

complementary contrasting color

split complementary color

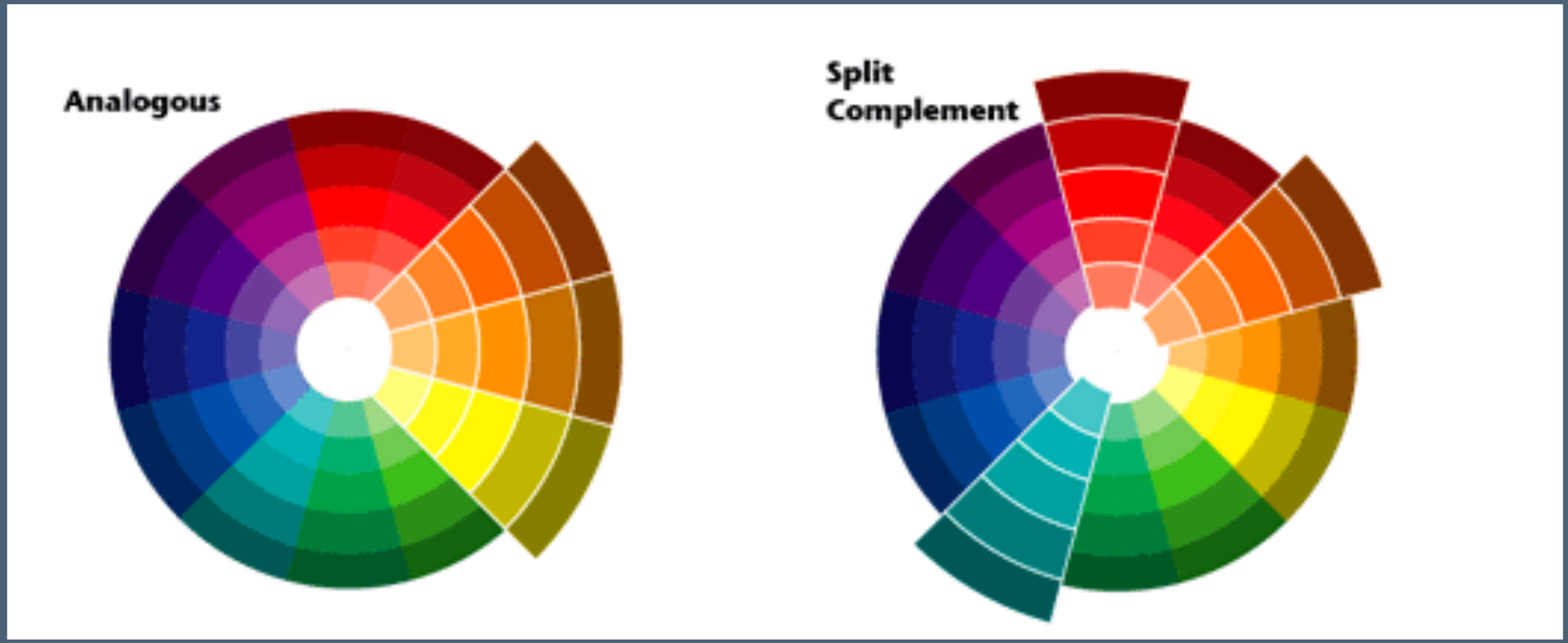
analogous color

triad color



Choosing colors

- Start in grayscale, then keep the luminance values
- Common schemes: analogous, split complement



Benefit from others

- Adobe Color CC http://color.adobe.com
- Fork popular schemes https://color.adobe.com/explore/most-popular

sandy stone beach ocean ... 9K+ 9K+ 328

Firenze 9K+ 8K+ 186

Neutral Blue 9K+ 7K+ 54

Phaedra 6K+ 4K+ 16

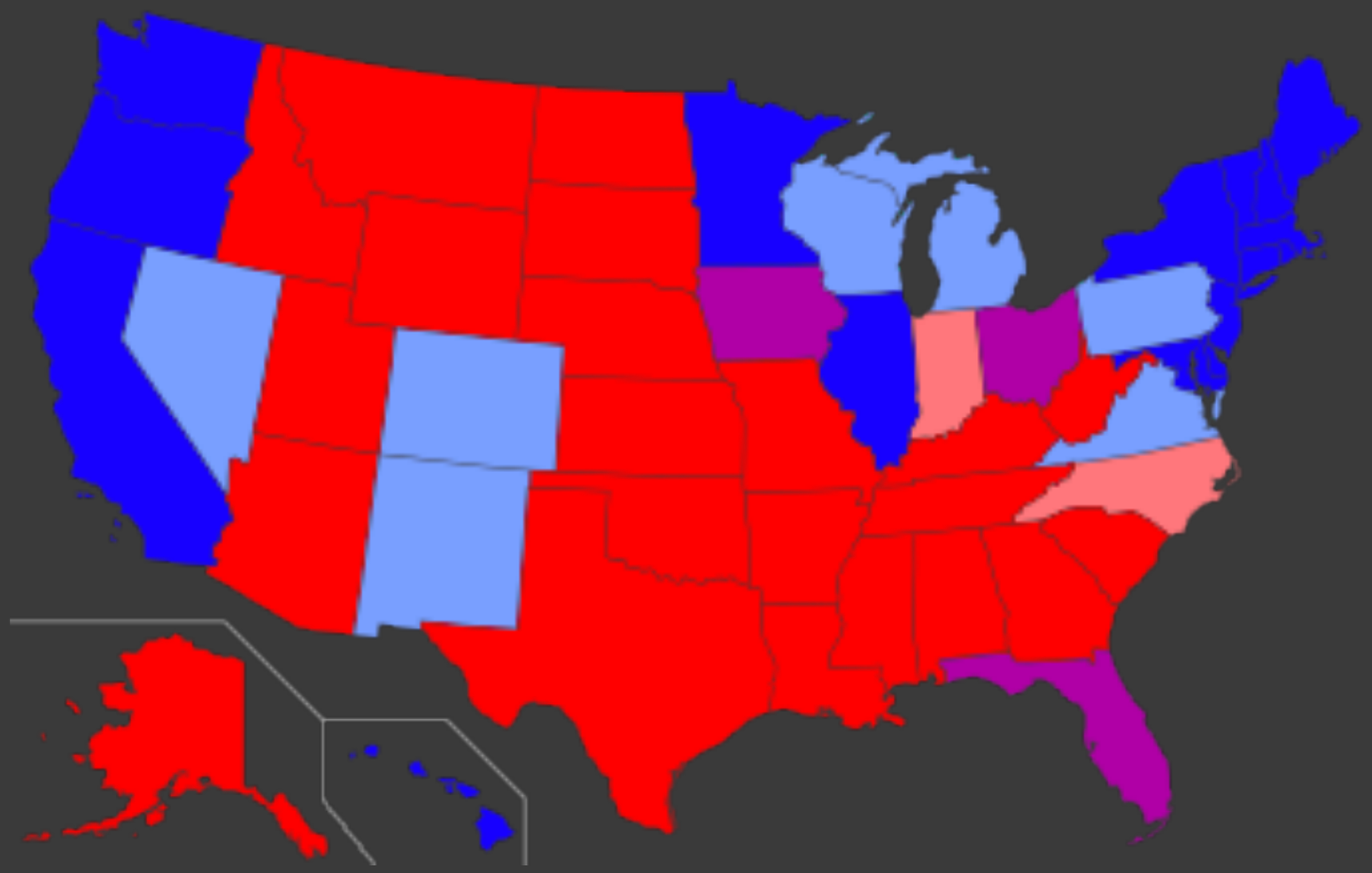
Cultural Differences in Color Interpretation

Cultural differences: color

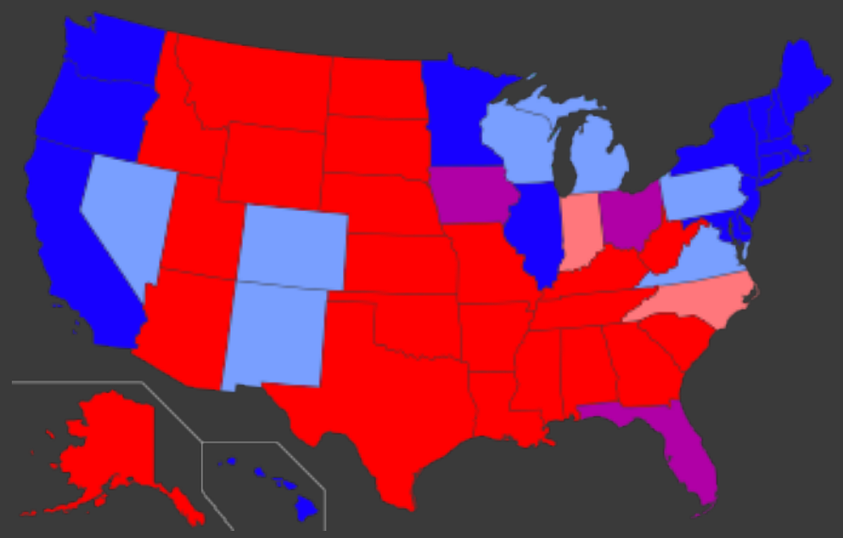
P. Russo & S. Boor, *How fluent is your interface? Proc. INTERCHI '93*

	Red	Blue	Green	Yellow	White
U.S.	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 connections do these colors have?



Are color meaning arbitrary?



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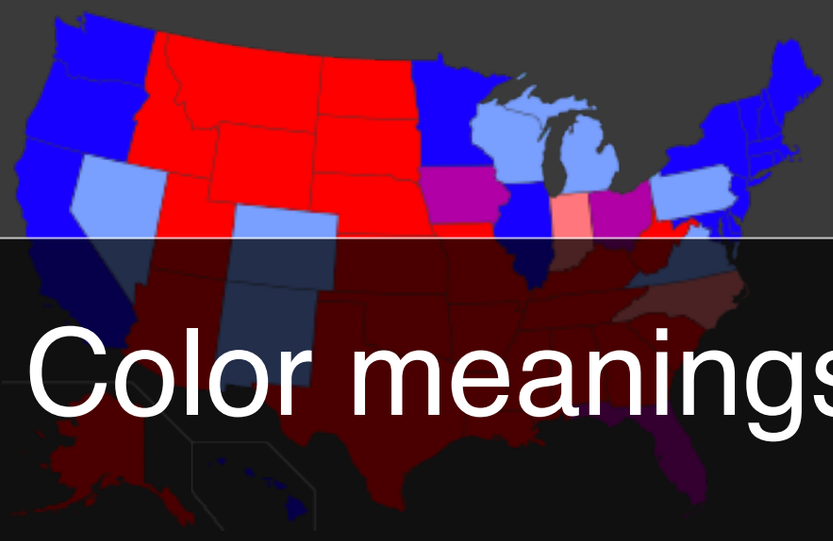

Color meanings are not absolute.

But at any time and place, they may mean something you don’t intend.

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Typography

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

Six Typographic Terms

Point size

S S

Gill Sans Calibri

Calibri: 2005, Lucas de Groot for Microsoft, www.microsoft.com/typography/fonts/family.aspx?FID=287

Six Typographic Terms

} Leading

Six Typographic Terms

Typographic Terms

Six} x-height

Gill Sans

Lucida Bright
high x-height

Baskerville
Low 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

Lucida Bright: 1993, Charles Bigelow & Kris Holmes · Baskerville, 1757, John Baskerville

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*

http://developer.android.com/design/style/typography.html

Six Typographic Terms: Serif

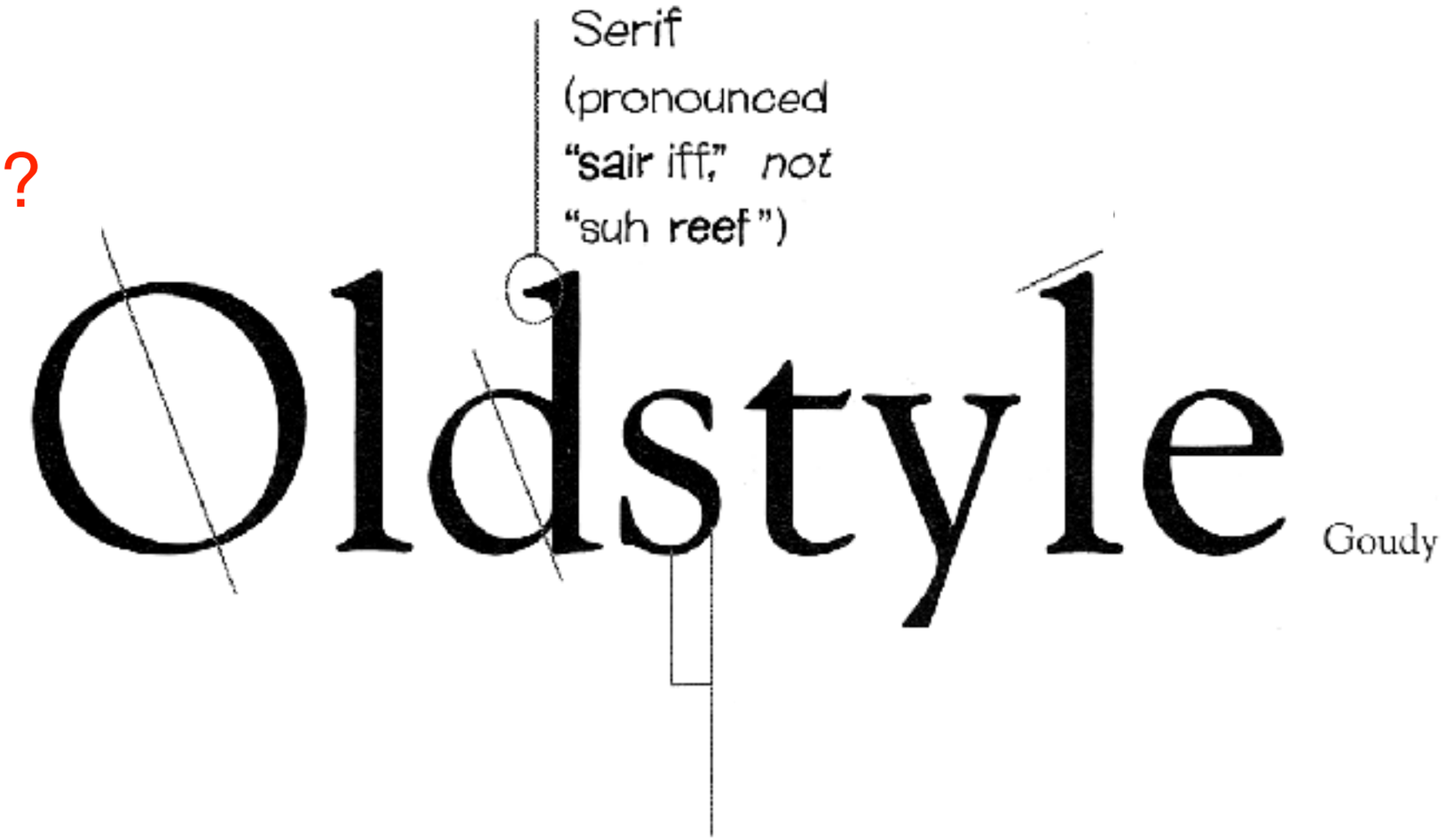
Goudy Palatino Times

Baskerville Garamond

Source: R. Williams
The Non-Designers Design Book

Six Typographic Terms: Serif

?????



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Baskerville Garamond

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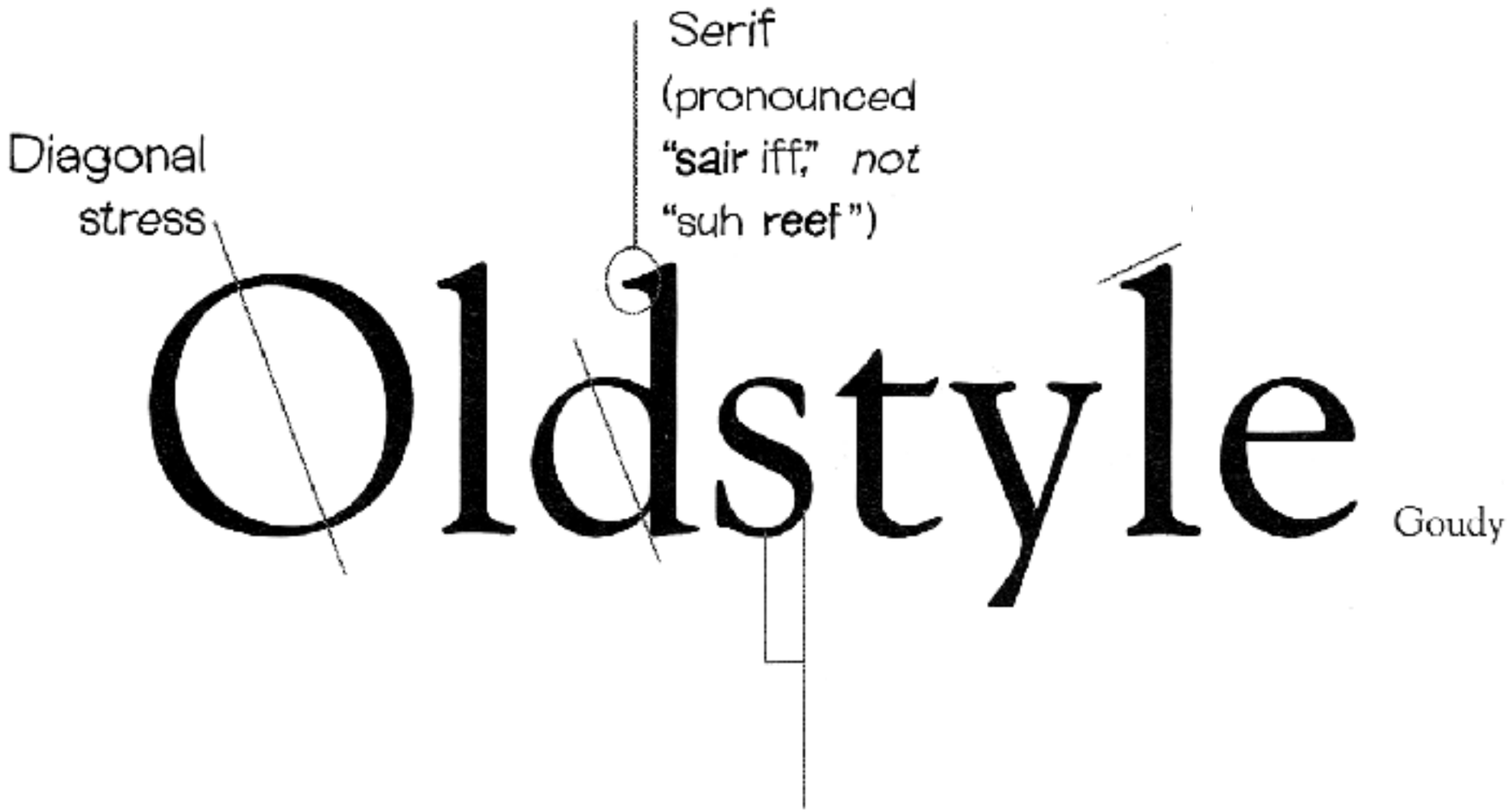

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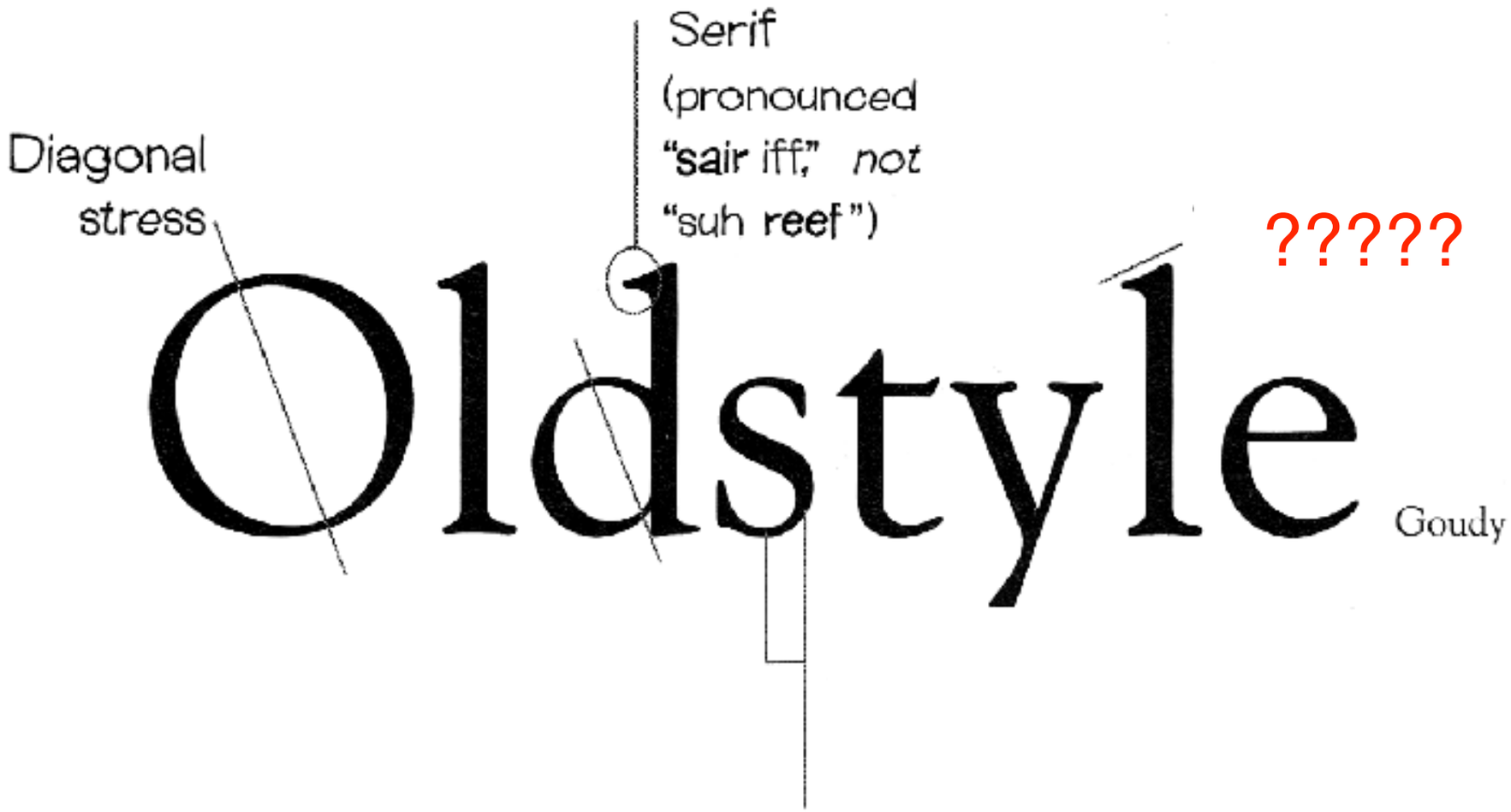

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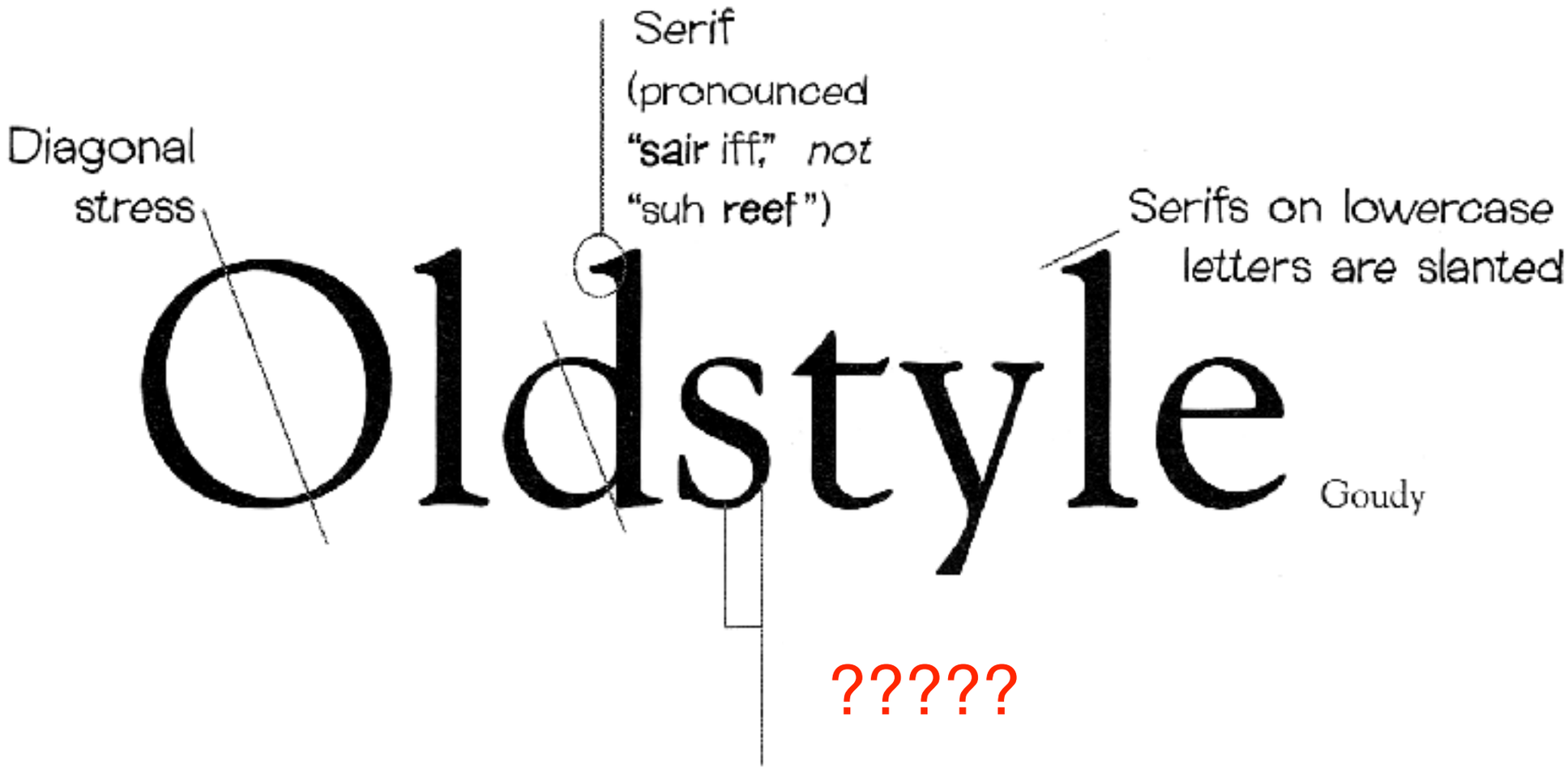

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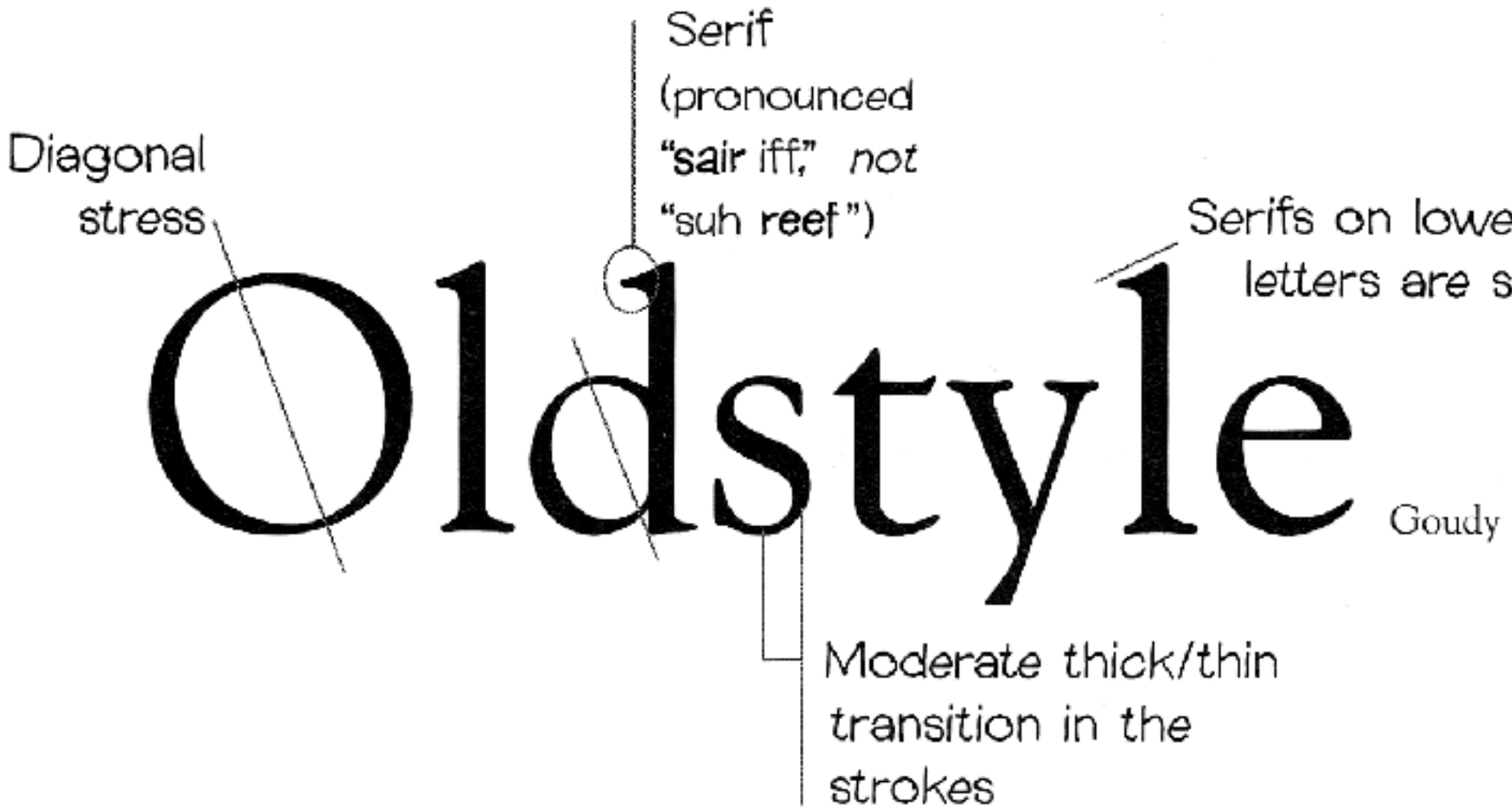
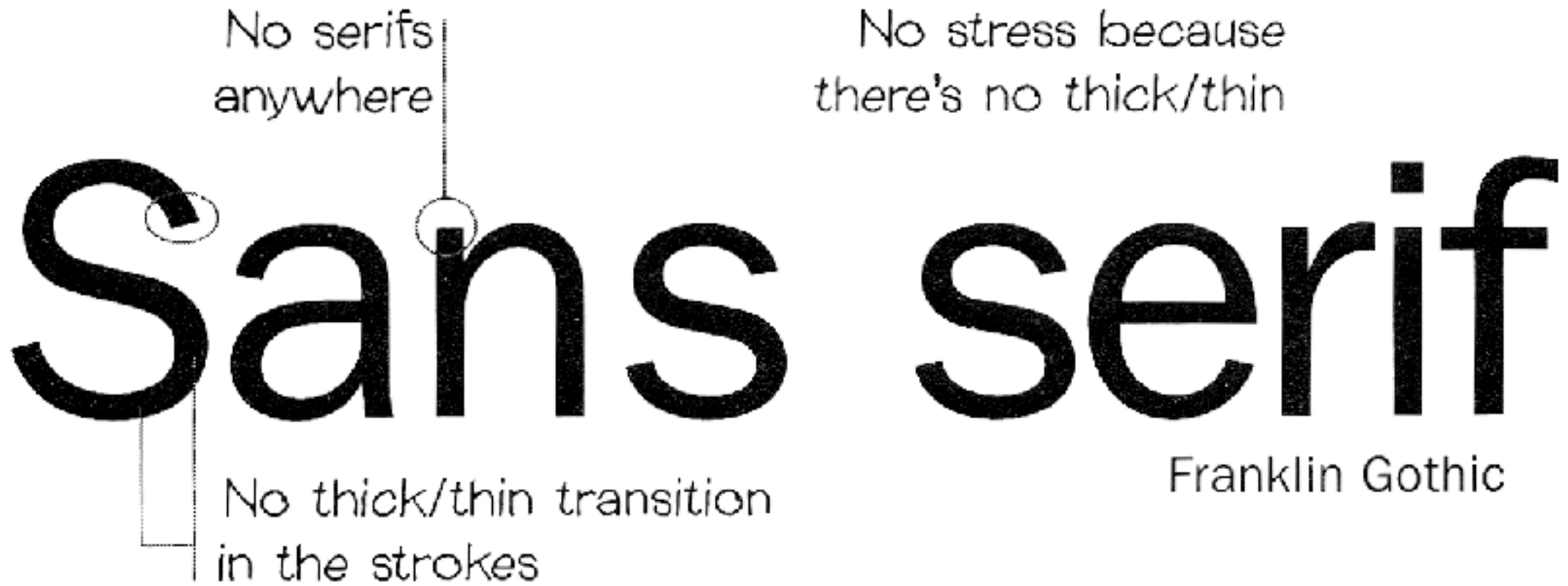


Goudy Palatino Times

Baskerville Garamond

Source: R. Williams
The Non-Designers Design Book

Six Typographic Terms: Sans Serif



Antique Olive **Formata**

Gill Sans **Franklin Gothic**

Folio **Syntax**

Source: R. Williams
The Non-Designers Design Book

Small caps, lowercase

2002, Christian Schwartz, House Industries, http://www.houseind.com/fonts/neutraface · **An Ode to a Typeface,** www.youtube.com/watch?v=xHCu28bfxSI

Small caps, lowercase

Numbers:

Lowercase 1234567890

Uppercase 1234567890

2002, Christian Schwartz, House Industries, http://www.houseind.com/fonts/neutraface · **An Ode to a Typeface,** www.youtube.com/watch?v=xHCu28bfxSI

The Serif Hypothesis

- Serif typefaces are easier to read -- and thereby preferable for long stretches of text -- because the serifs provide anchors that guide the reader's eye. Sans serif fonts lack these anchors and are therefore inappropriate for long stretches of text.

Challenges

- Individual differences dwarf manipulation effects
  - *i*.e., some people read faster than others. If there is an effect, it's very small
- Confound: Reading requires familiarity
- Dependent Variable? Speed? Comprehension? …?

“Legibility, in practice, amounts simply to what one is accustomed to” — Eric Gill, 1931

Combining Type: Concordant

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

Combining Type: Contrasting

Typography

From Wikipedia, the free encyclopedia

Gill Sans Light
48 pt

Gill Sans Light, 16 pt

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UC Berkeley OldStyle, 12 pt

Combining Type: Conflicting

Typography

Arial
36 pt

From Wikipedia, the free encyclopedia

Futura Medium, 14 pt

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).

Myriad Regular, 12 pt

Typefaces, like everything, build reputations

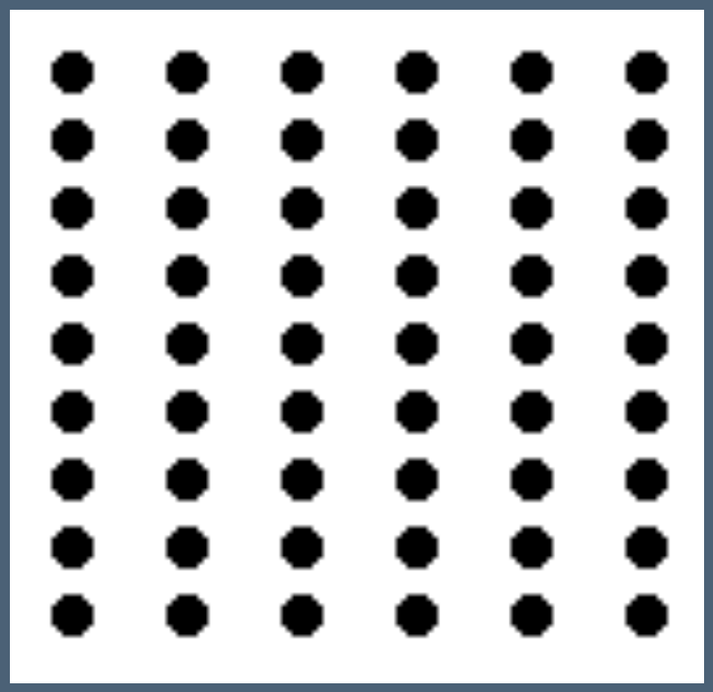
Hoefler + Frere-Jones: http://typography.com/ask/showBlog.php?blogID=79

Gestalt

noun

an organized whole that is perceived as more than a sum of its parts

What pattern do you see here?



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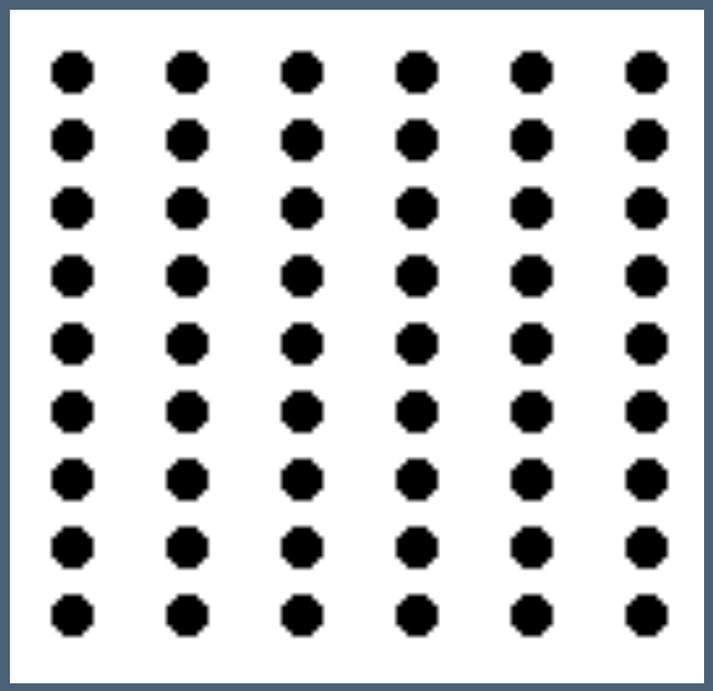
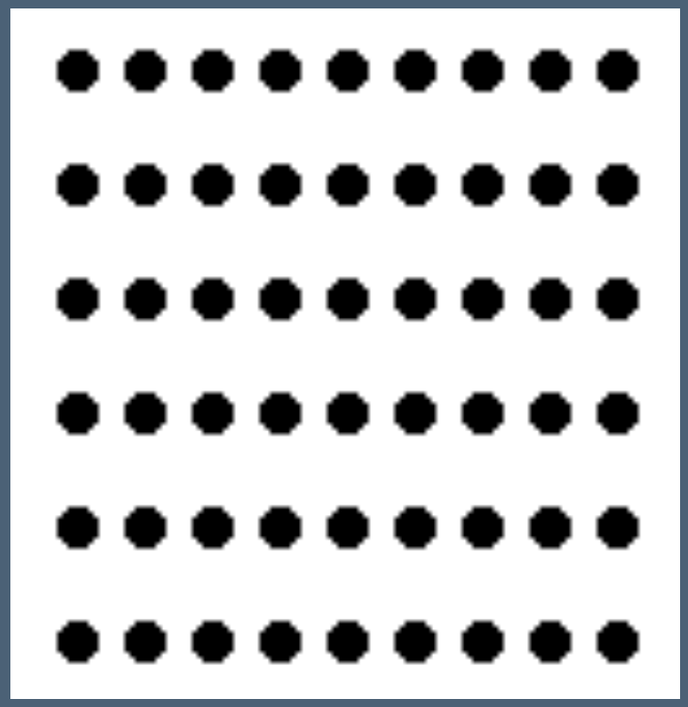
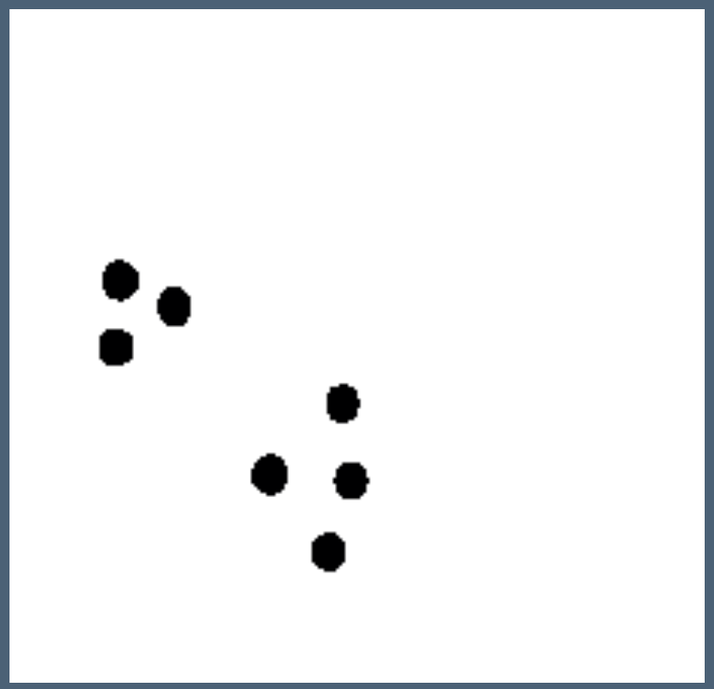




Proximity



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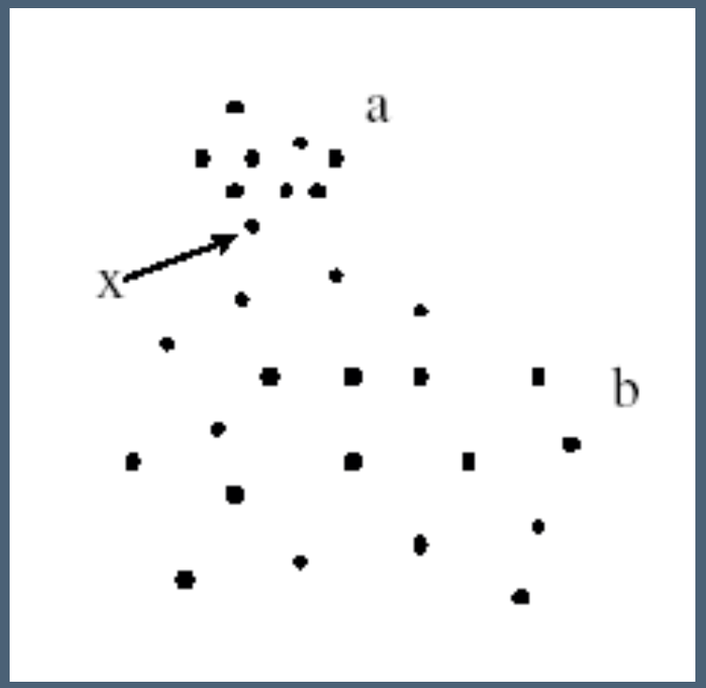

How is proximity used?

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

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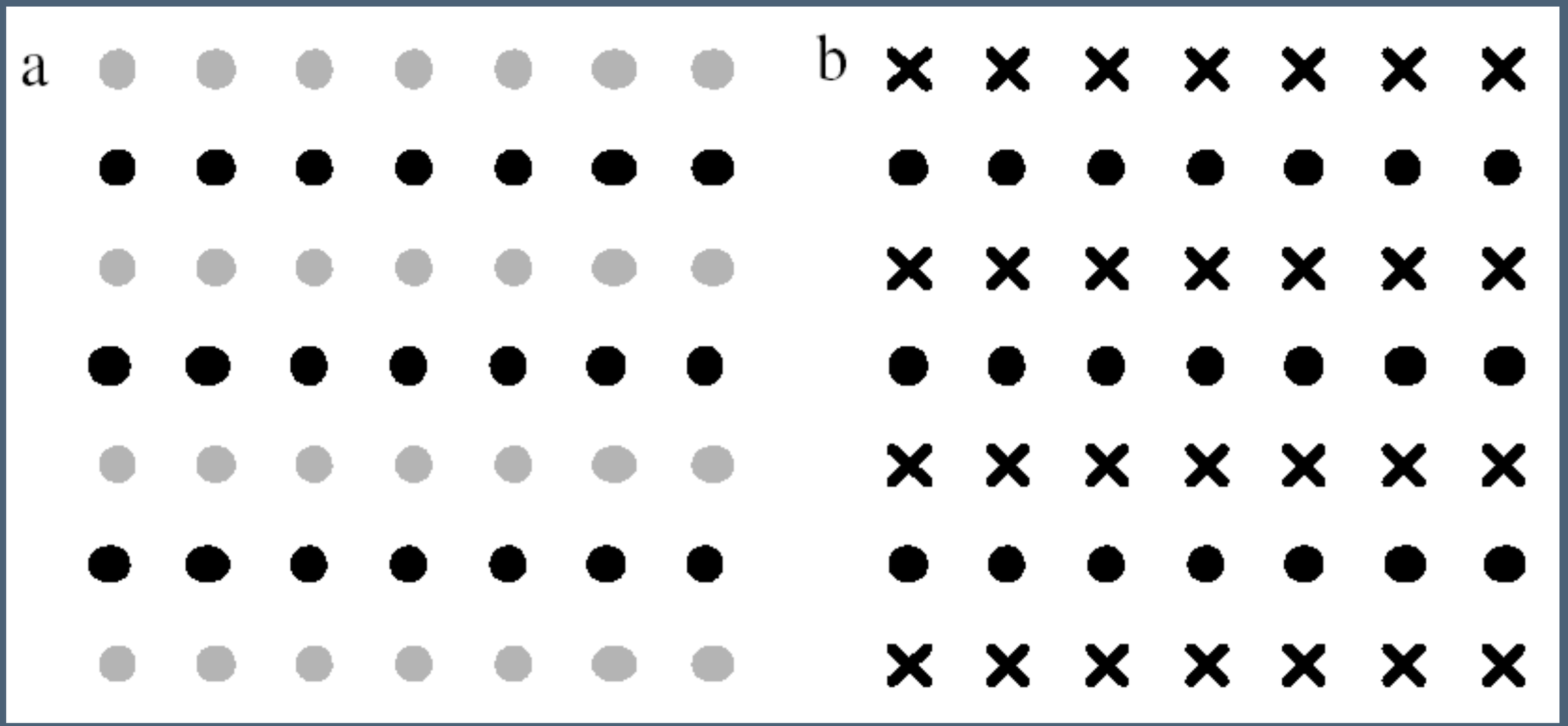

How is similarity used?

TUESDAY, NOVEMBER 4 — ELECTION DAY

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Clam chowder
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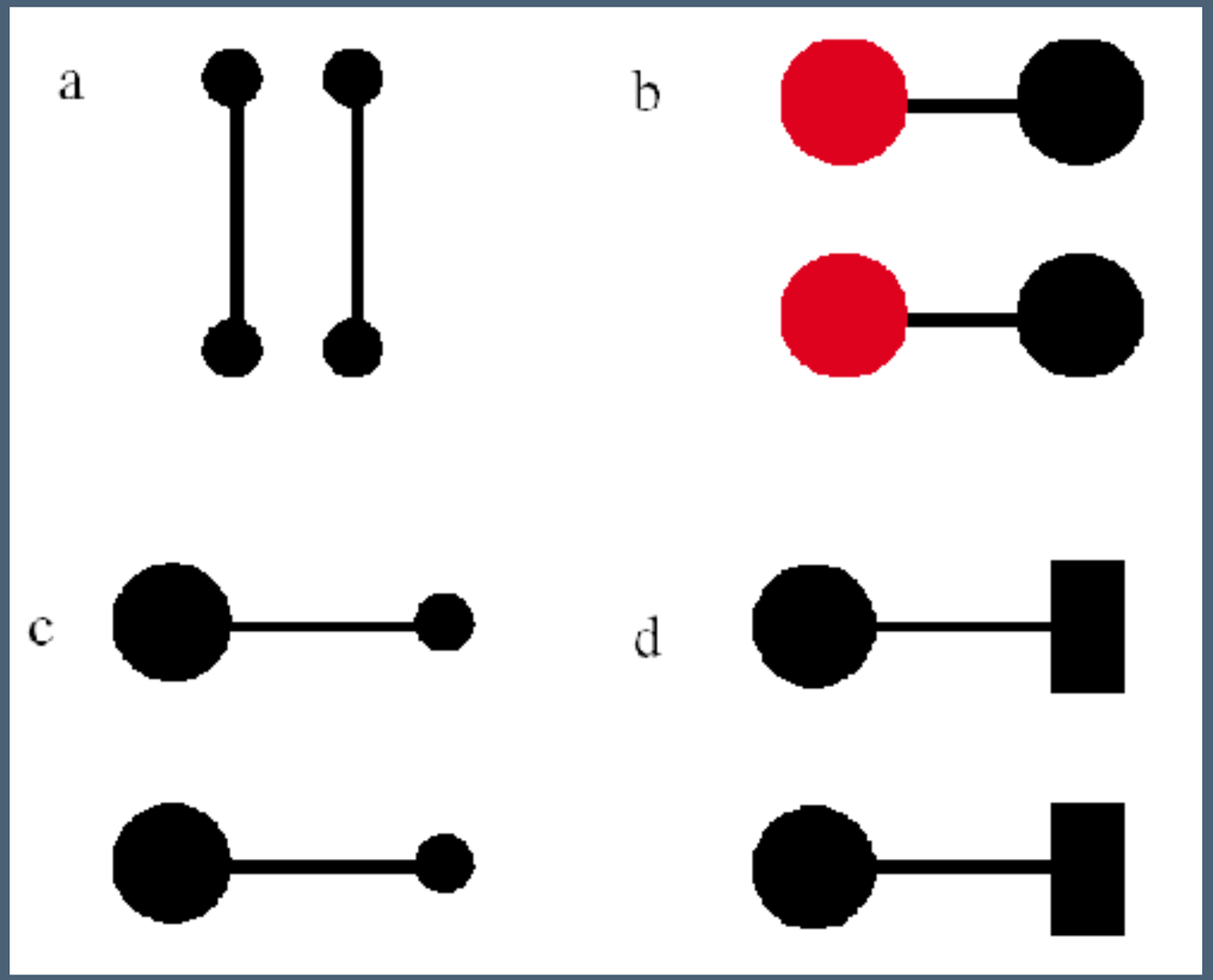
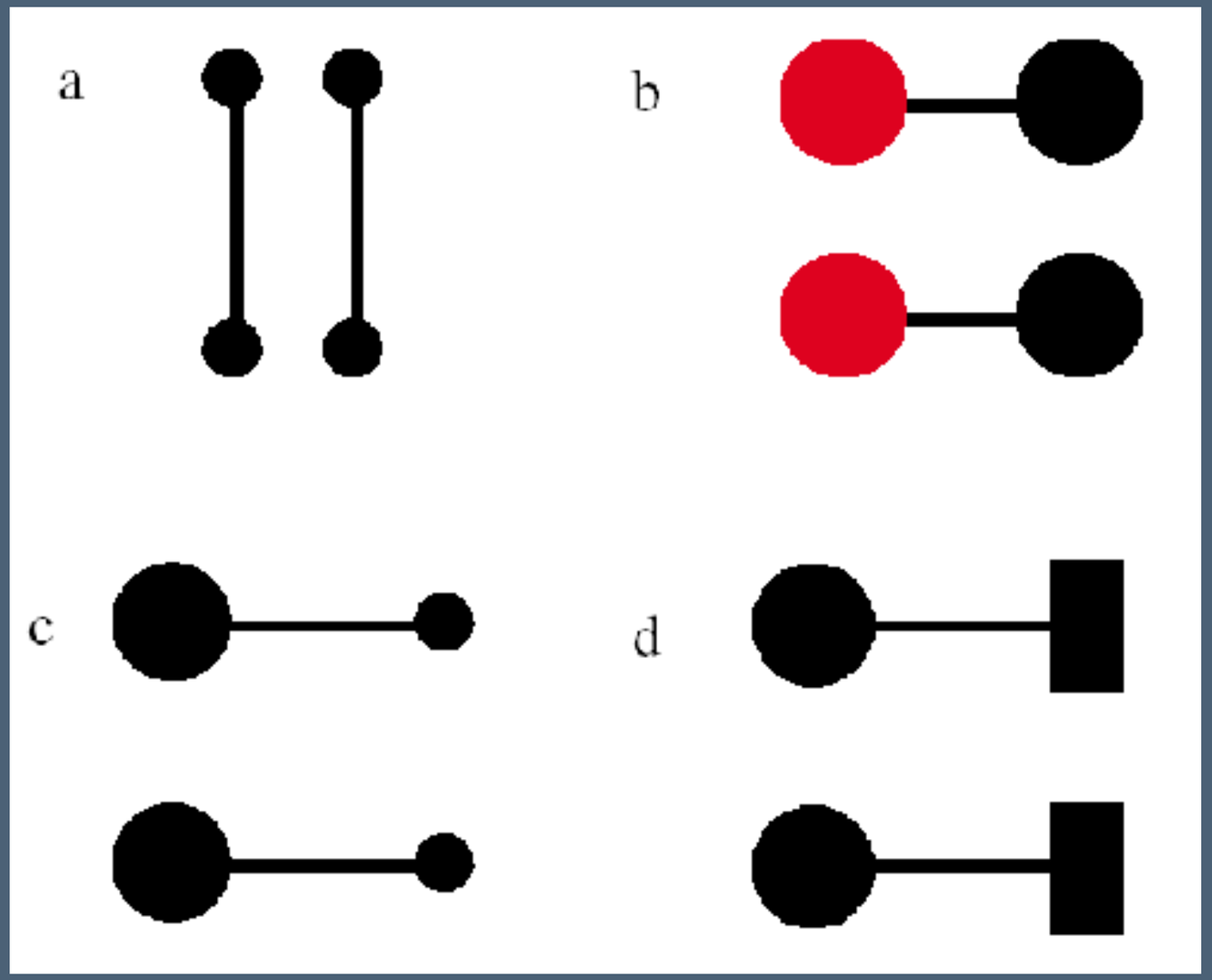
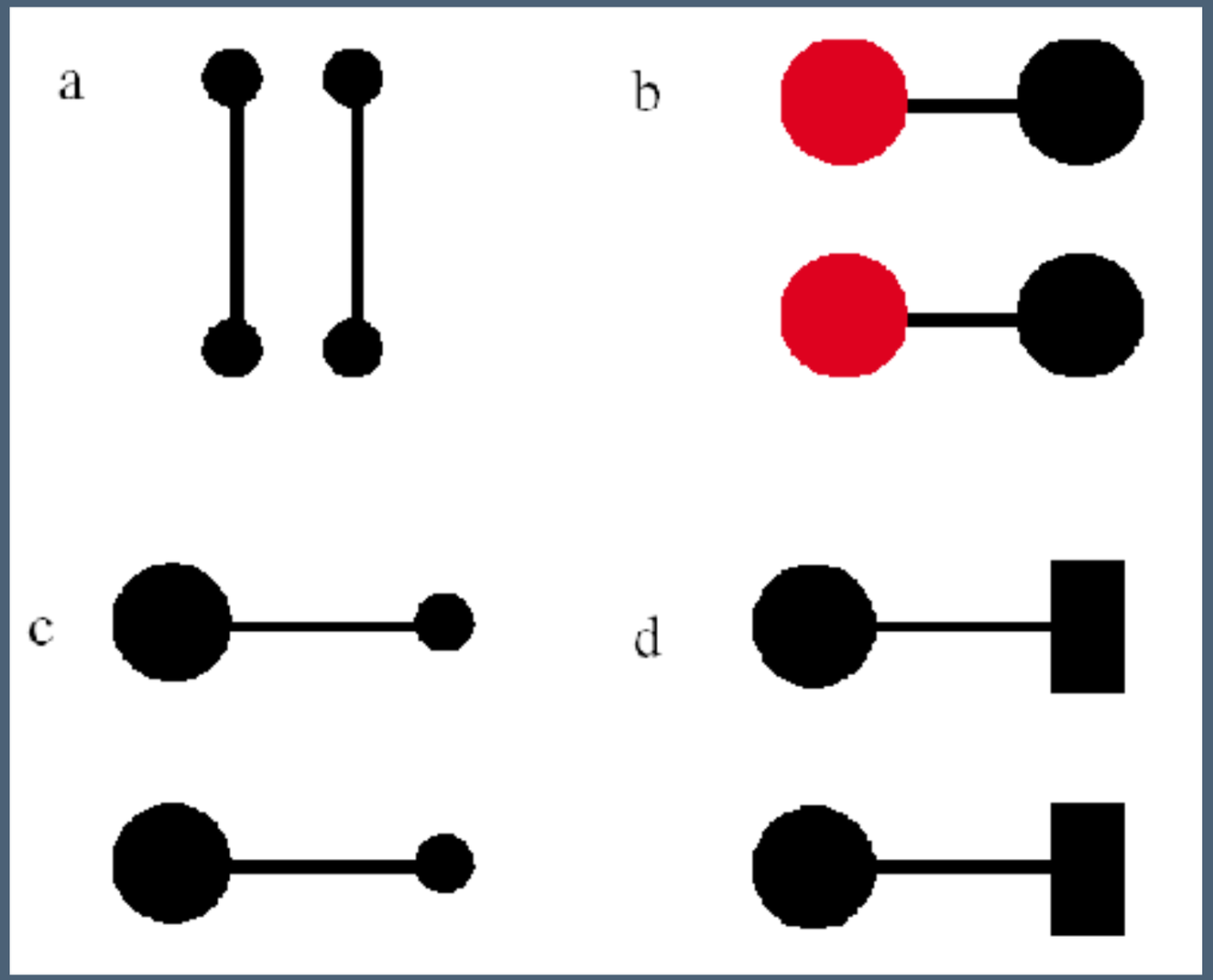


What pattern do you see here?



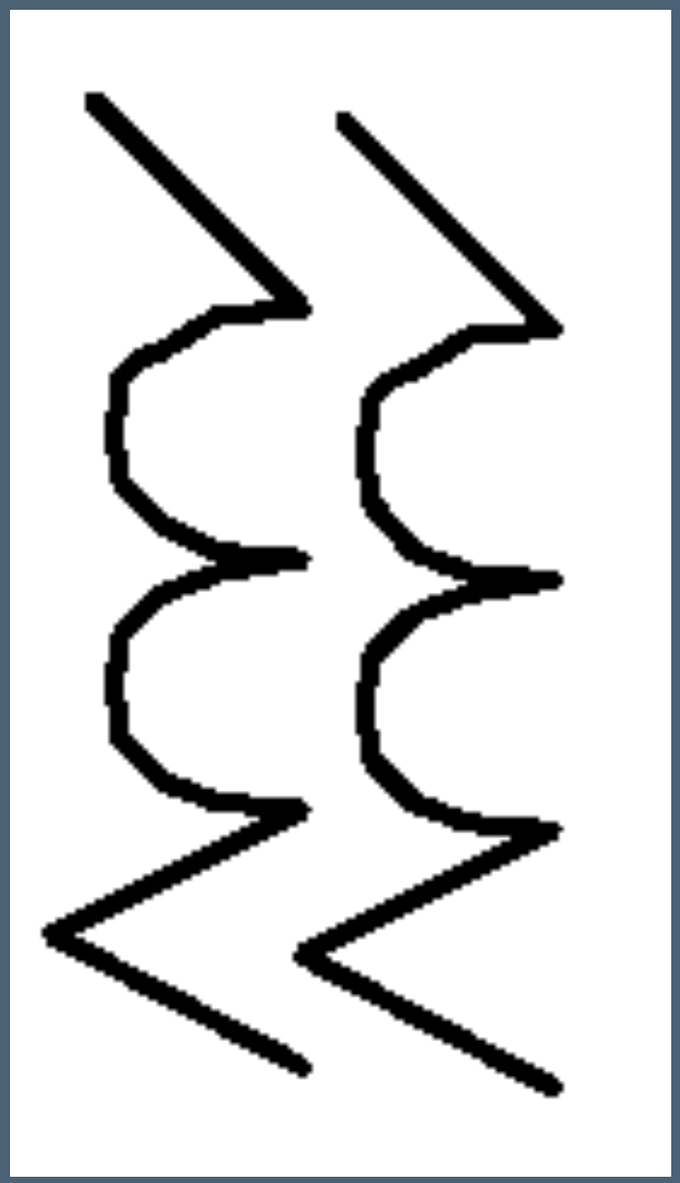
How are proximity and similarity used?

Connectedness

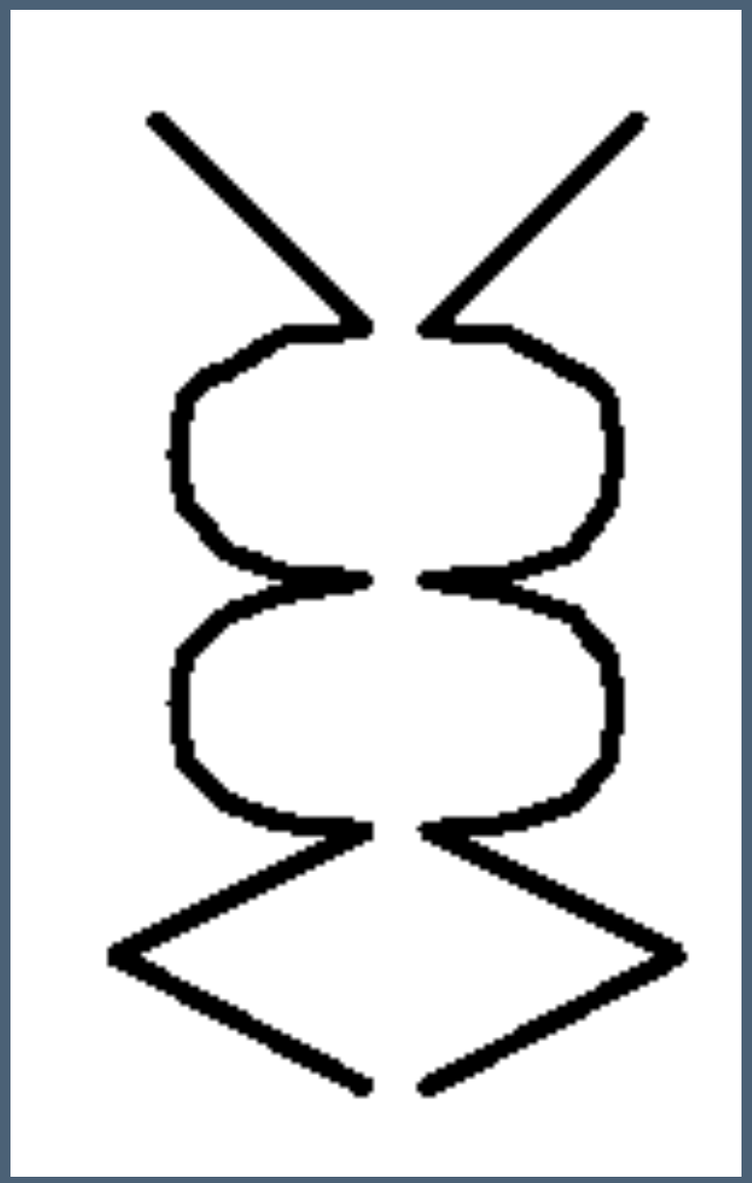


Connection overrules proximity and similarity

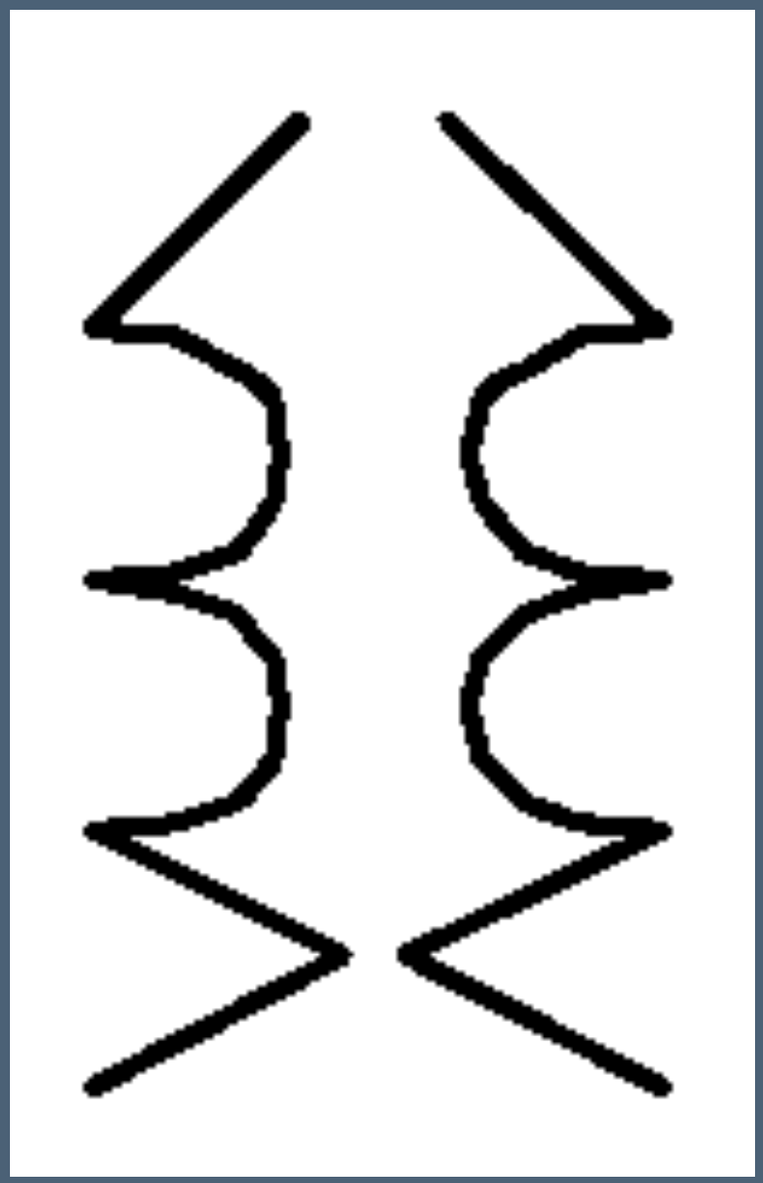
What literal difference do you see between A B and C?



A

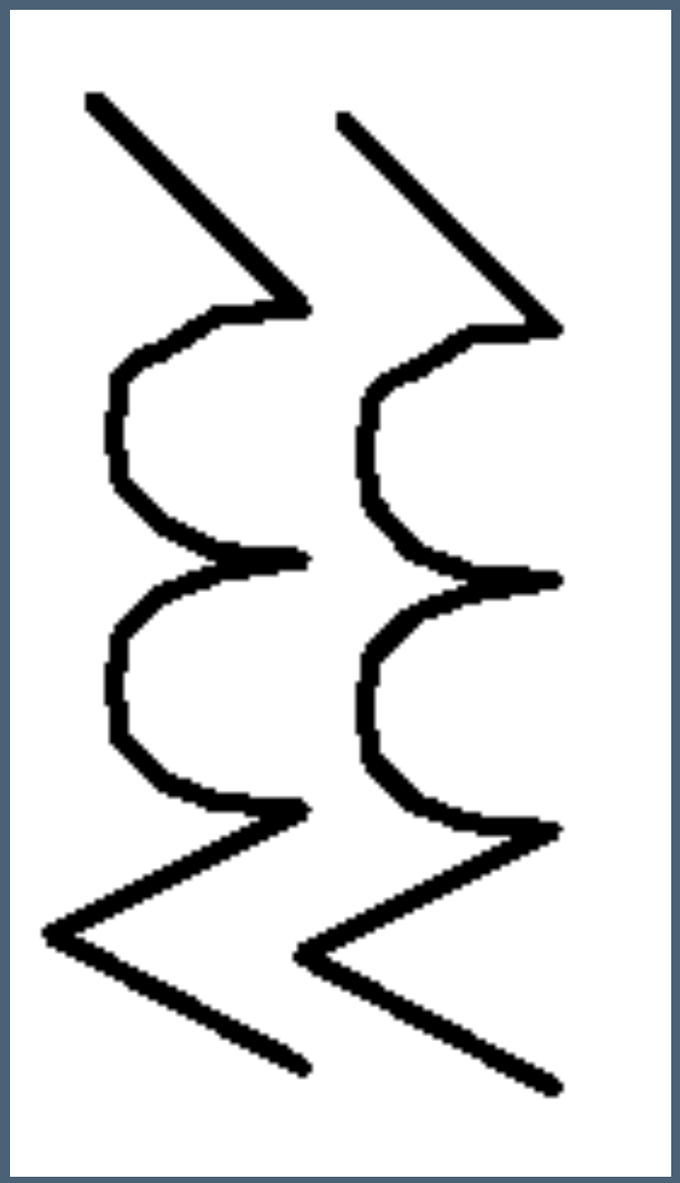


B

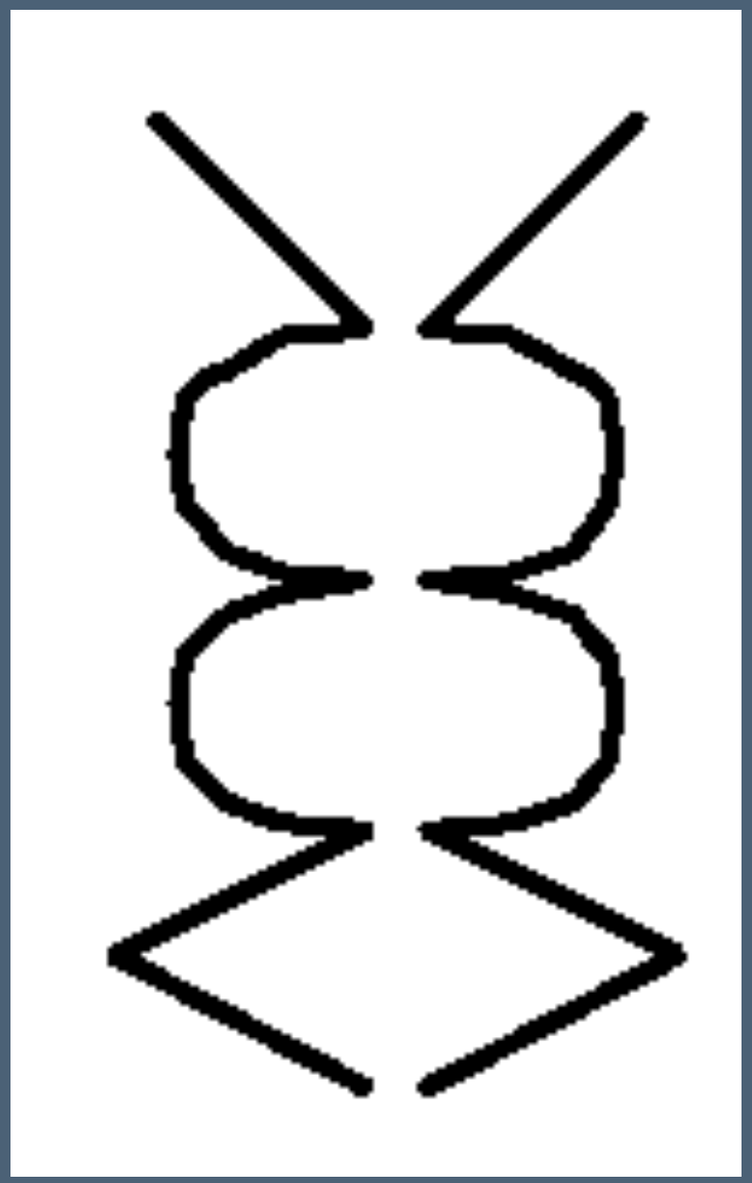


C

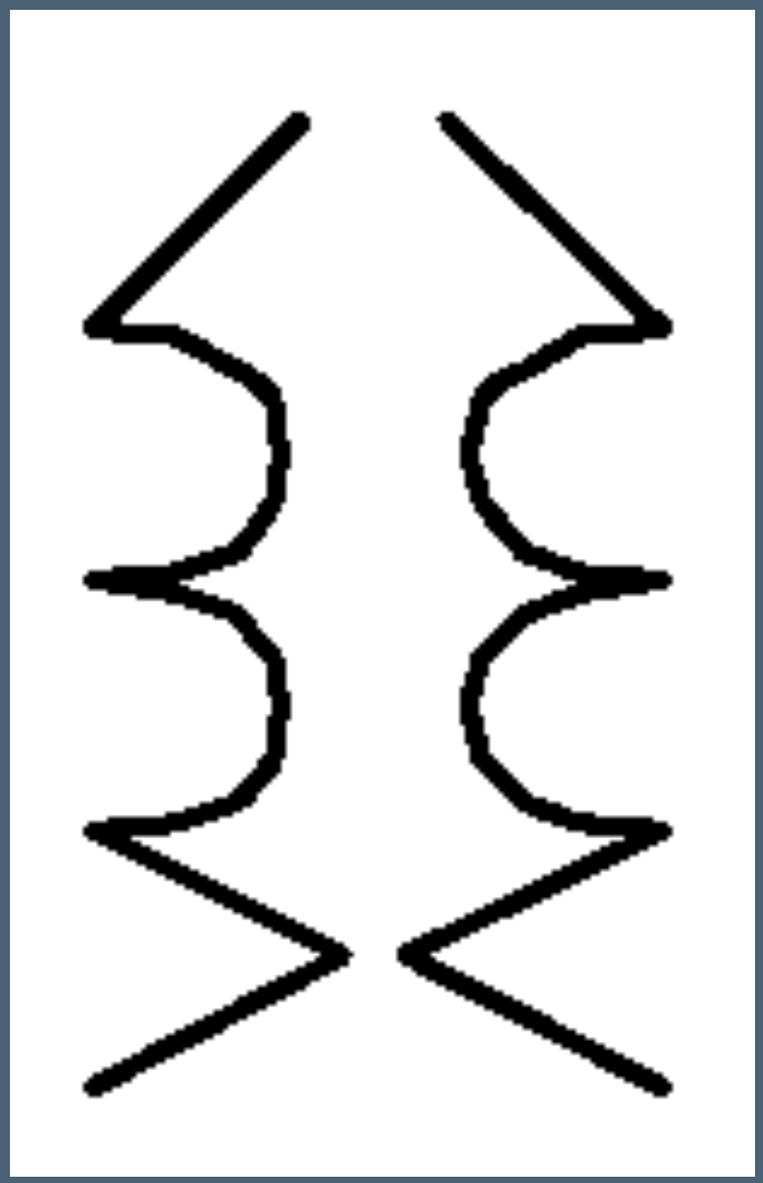
What perceptual difference do you see between A B and C?



A

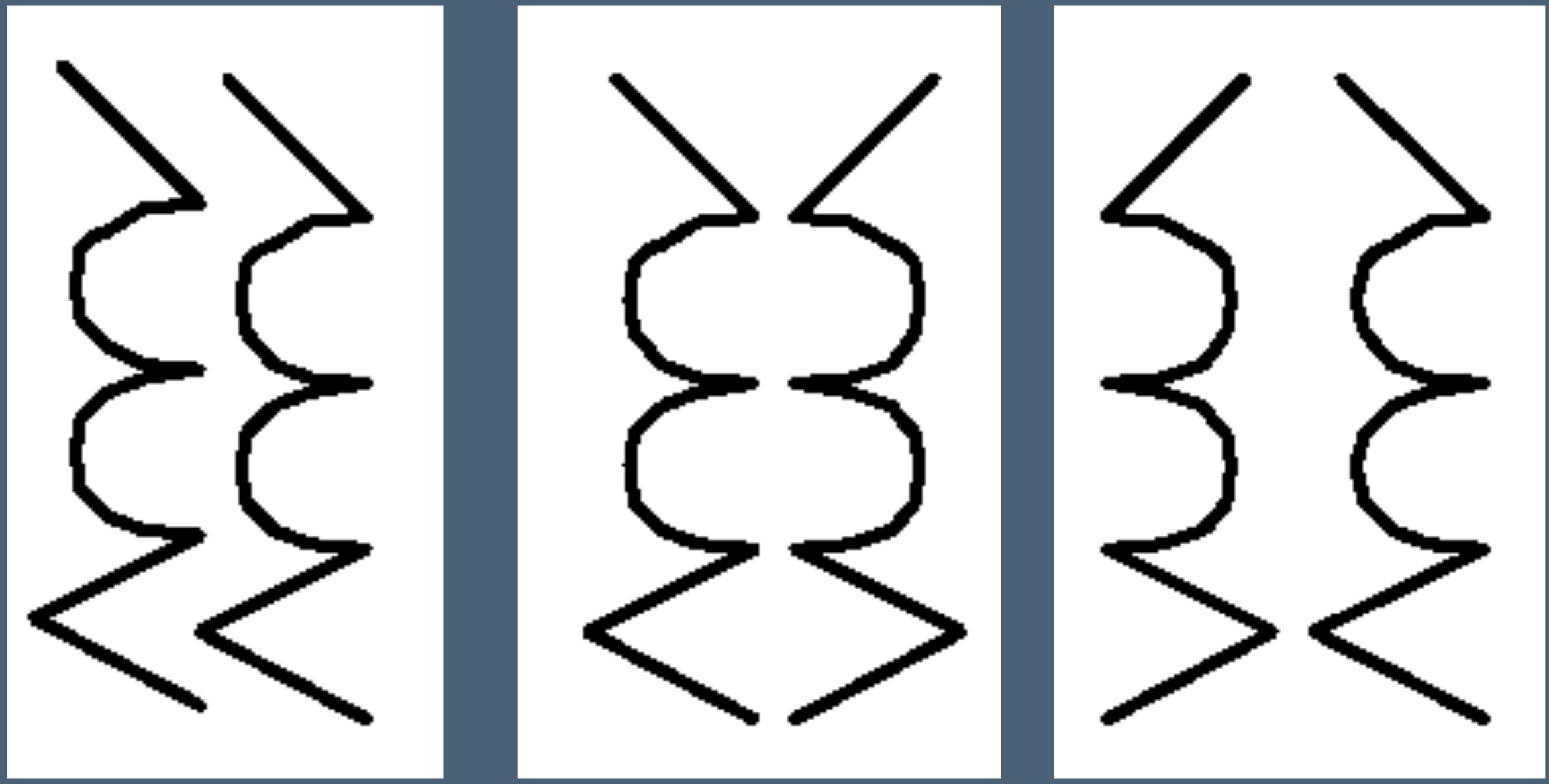


B



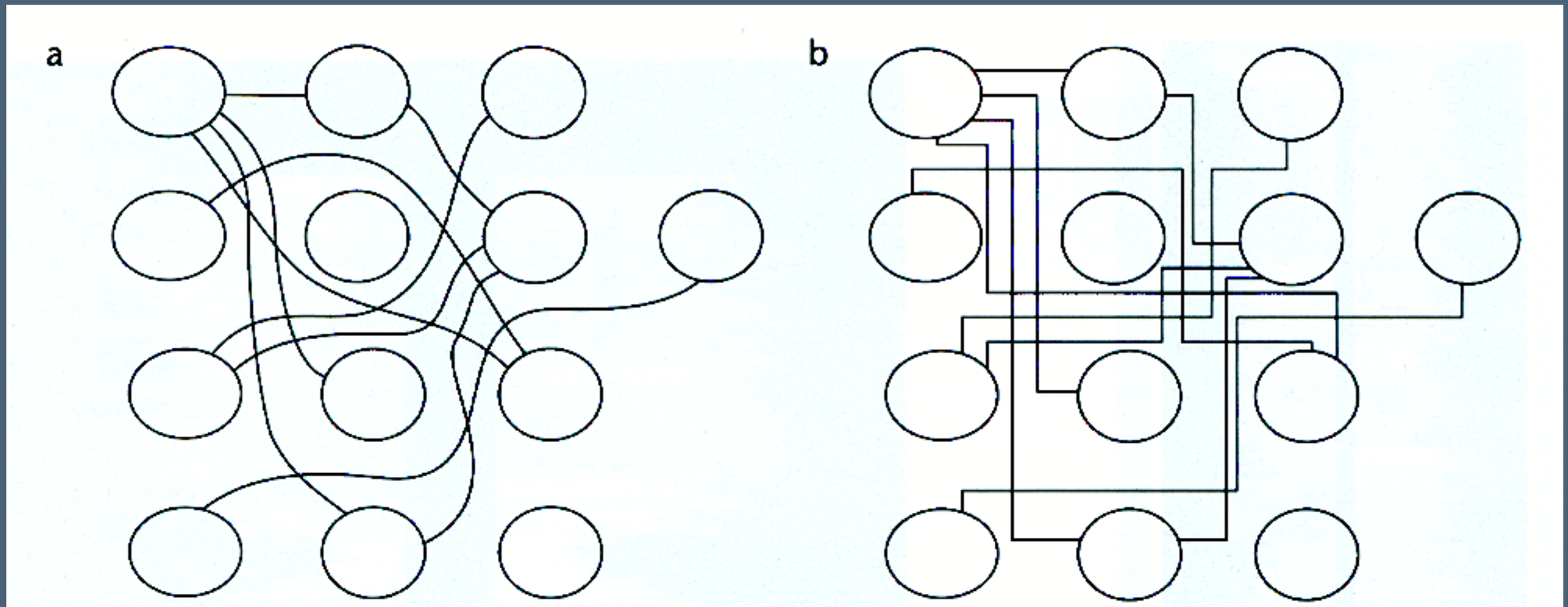
C

Symmetry

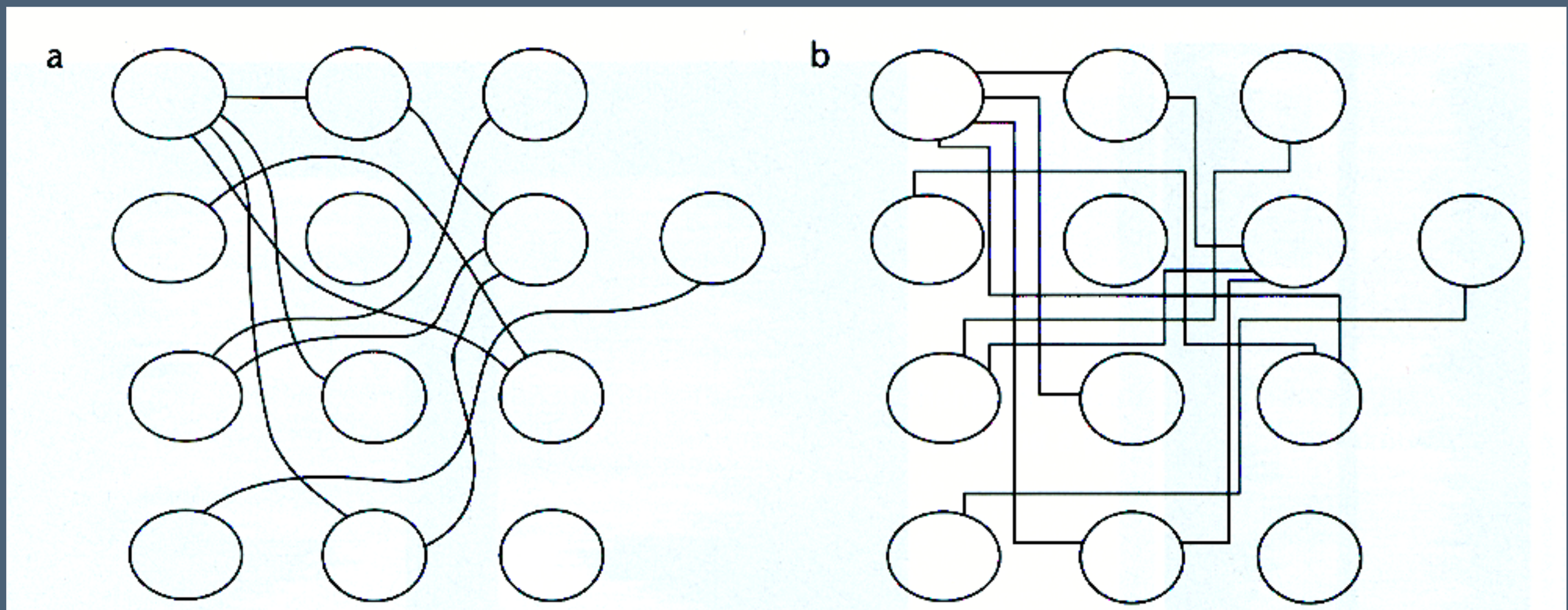


Bilateral symmetry gives strong sense of figure

Which paths are easier to follow?

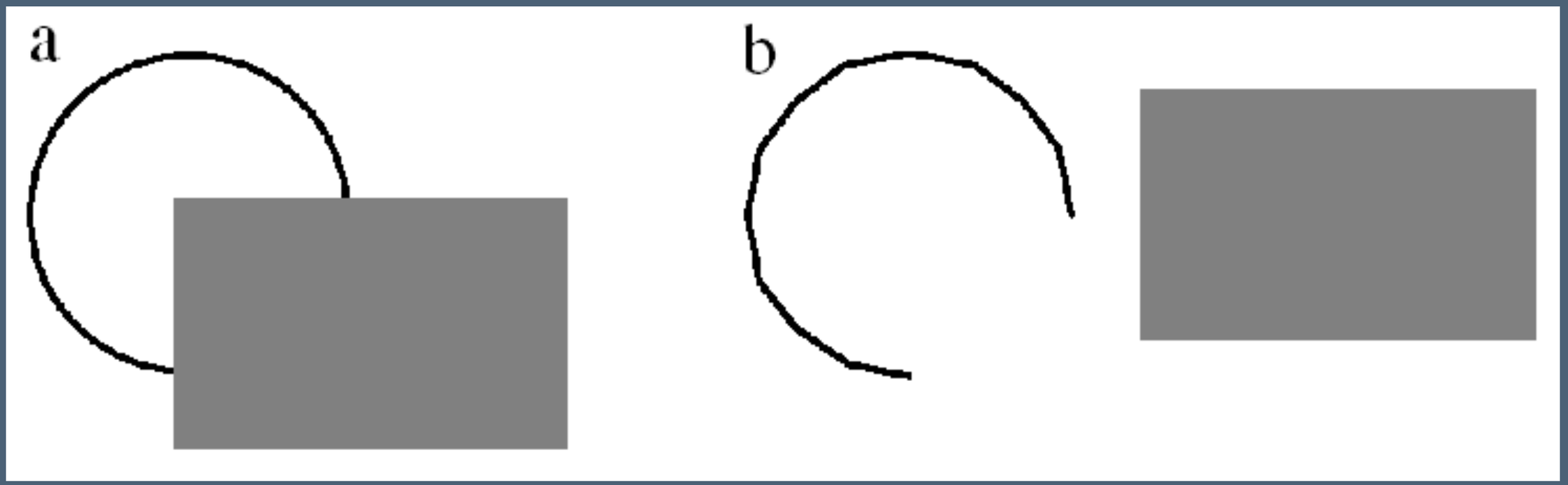


Continuity

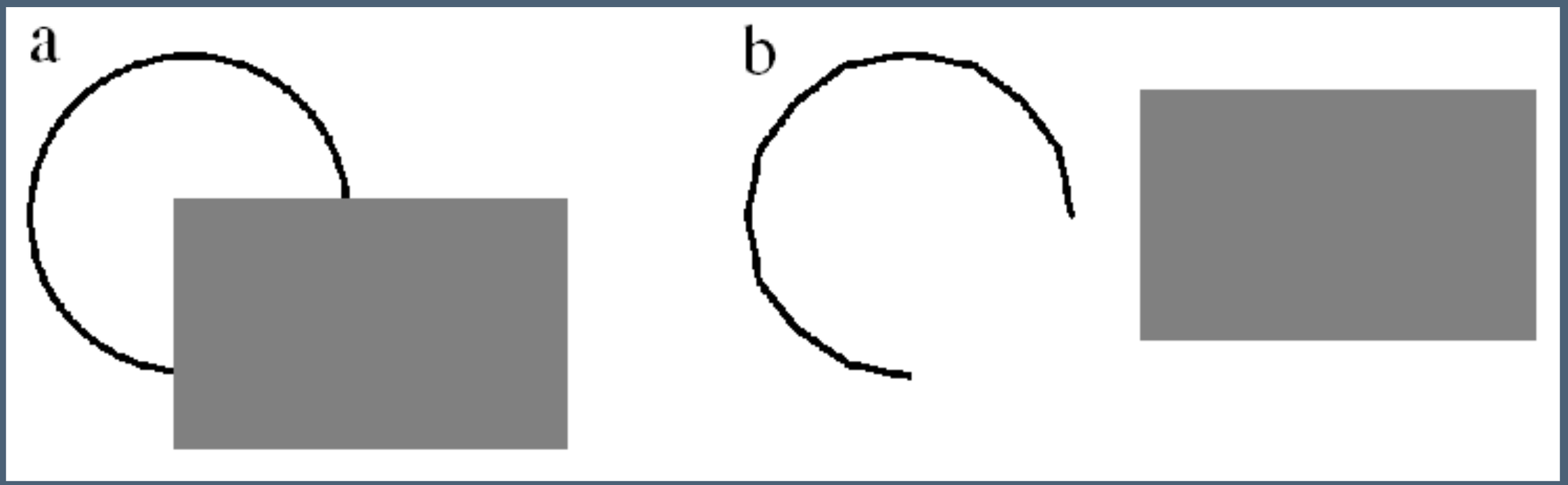


We prefer smooth not abrupt changes
Connections are clearer with smooth contours

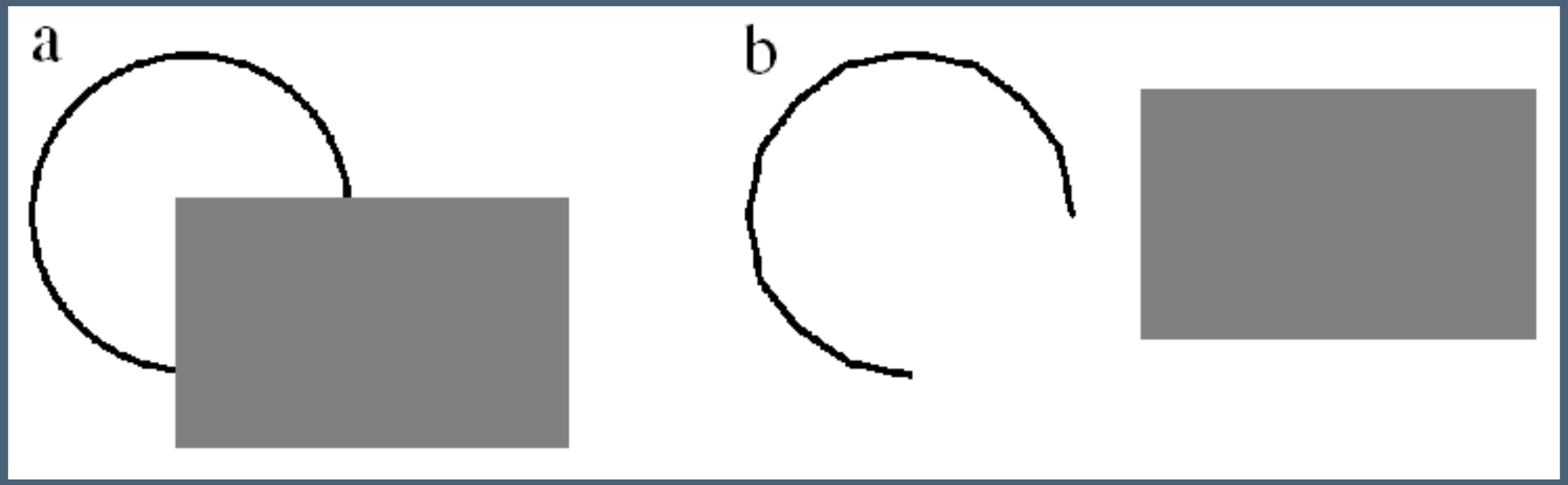
What is the literal difference between a and b?

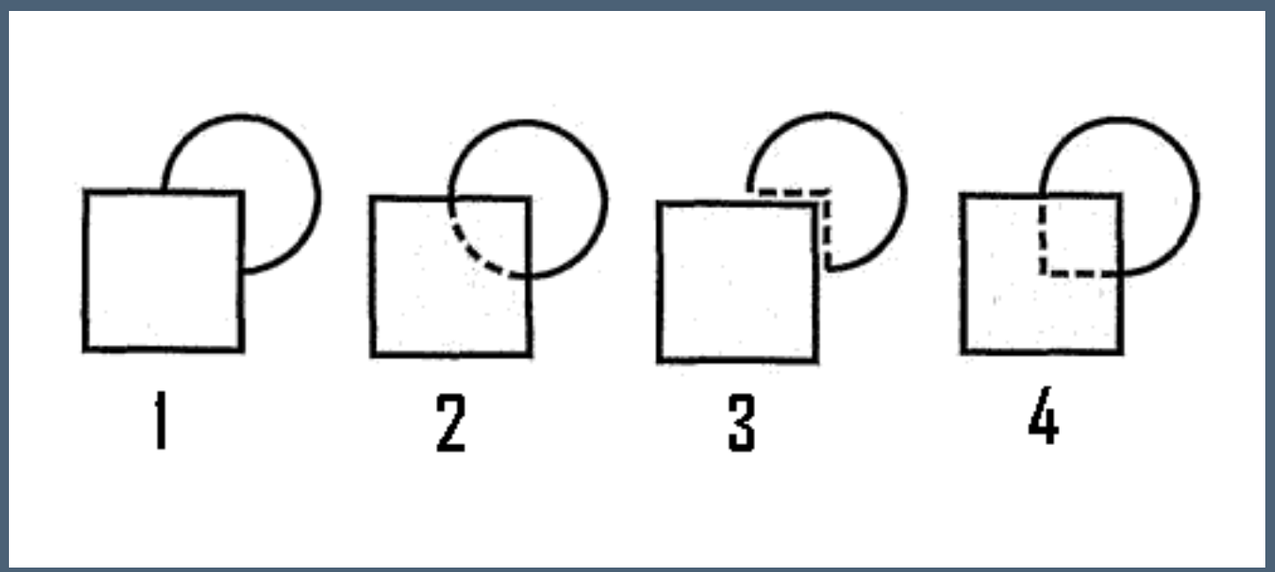


What is the perceived difference between a and b?

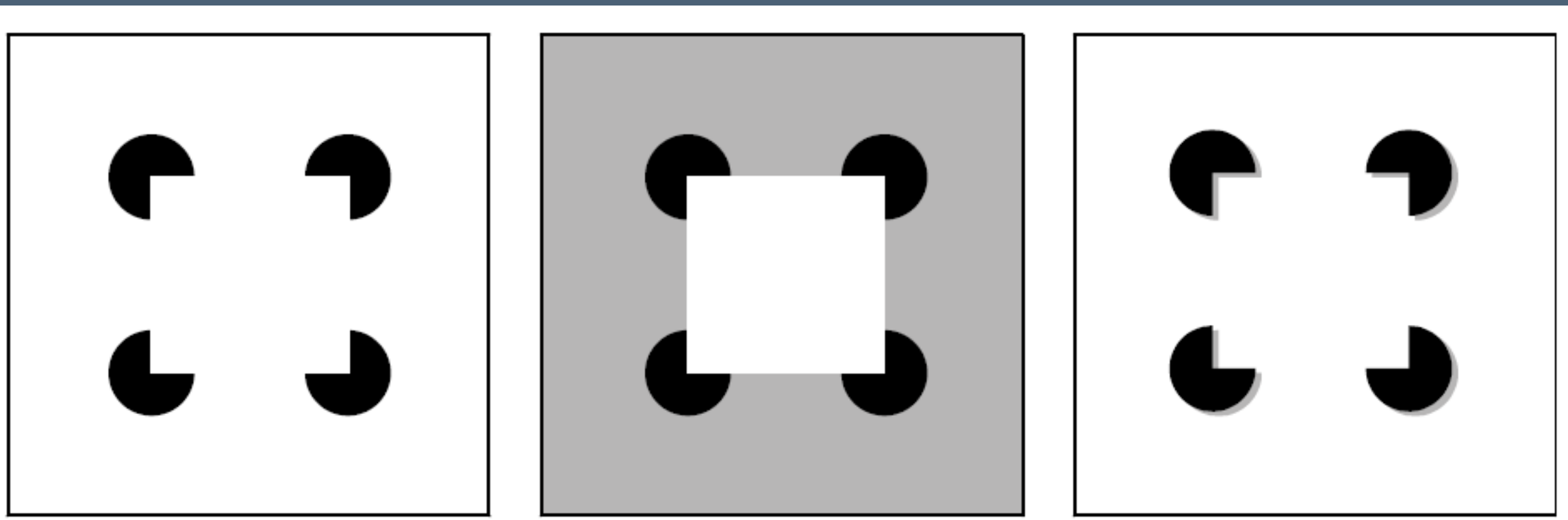


Closure



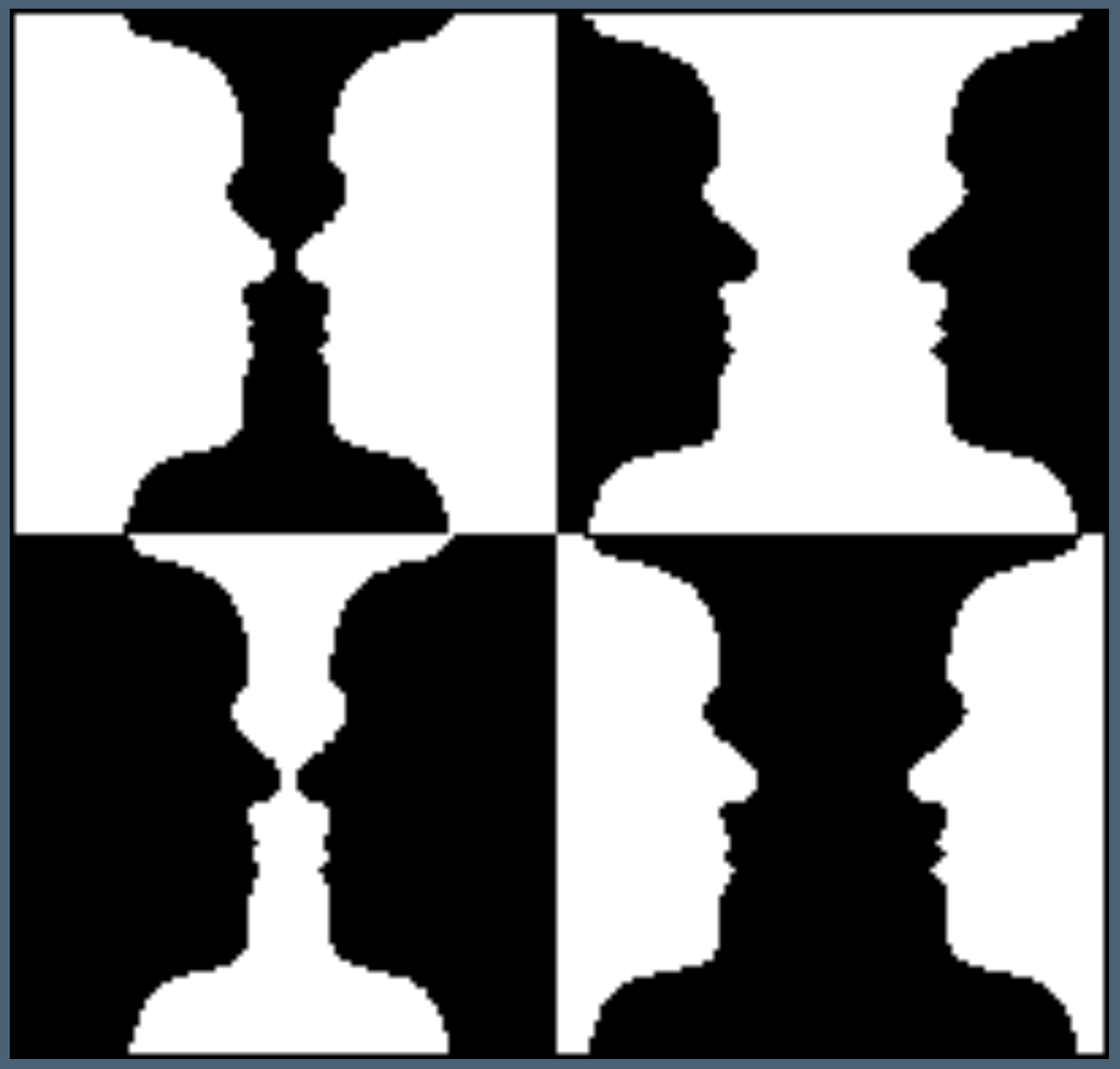


Illusory contours



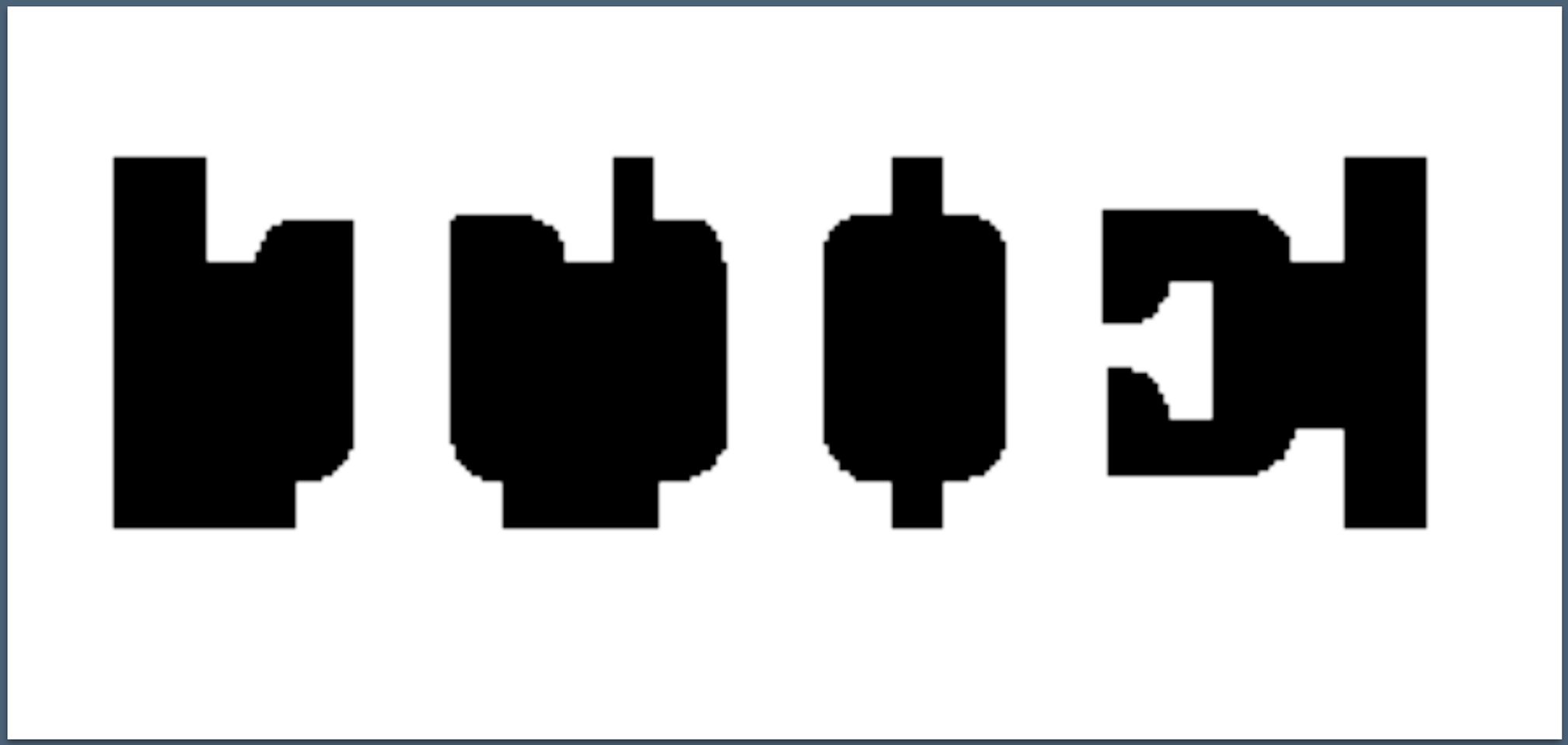
What do you see?

Figure/Ground



Principle of Relative Size

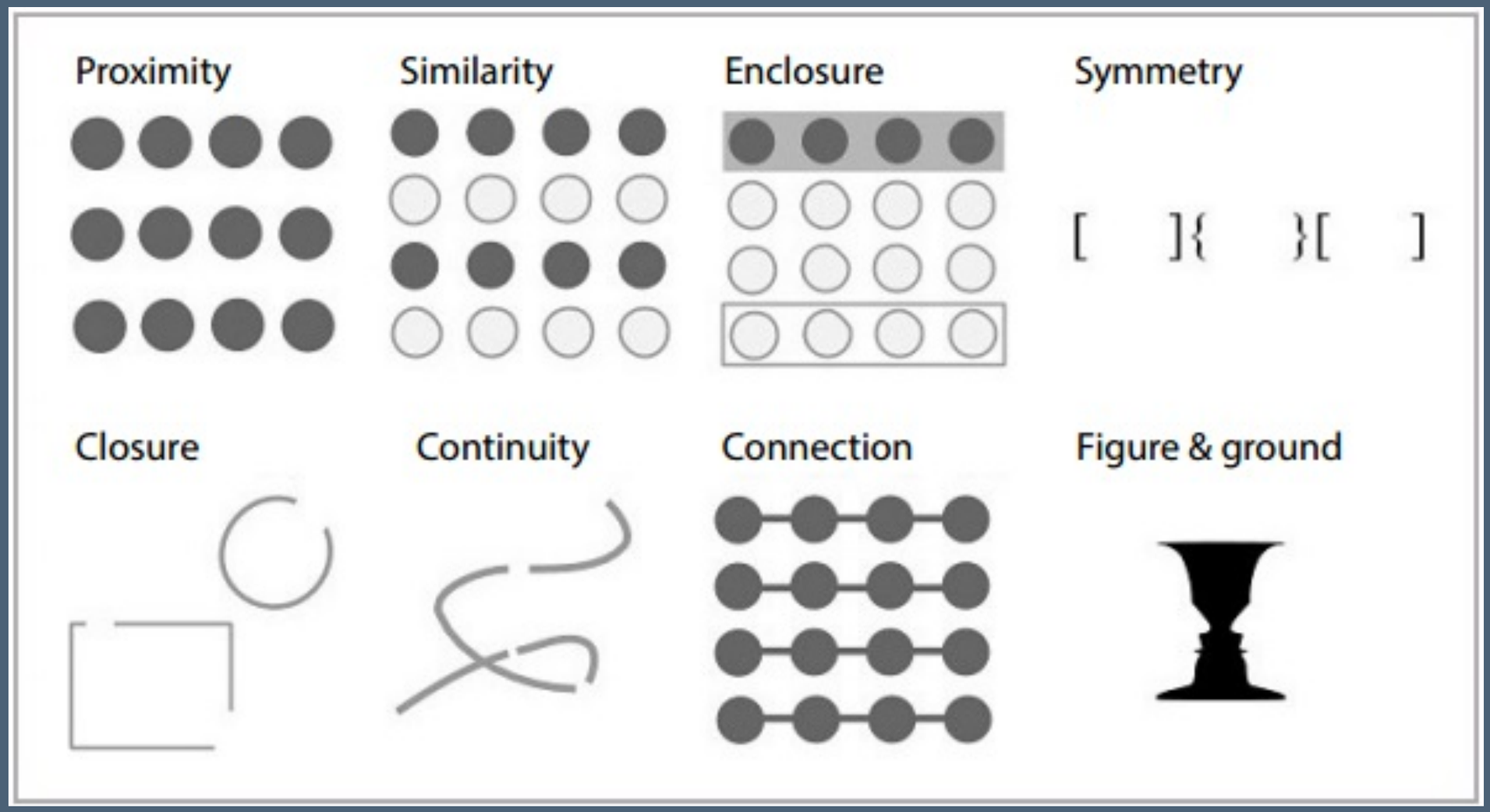
Figure/Ground



Figure/Ground

Principle of Surroundedness

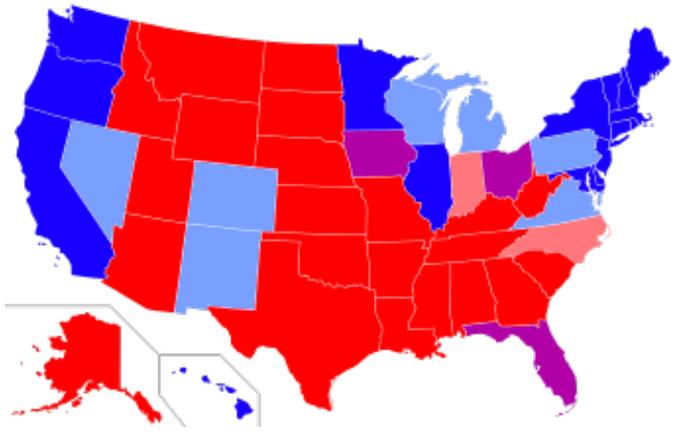
8 Gestalt Principles



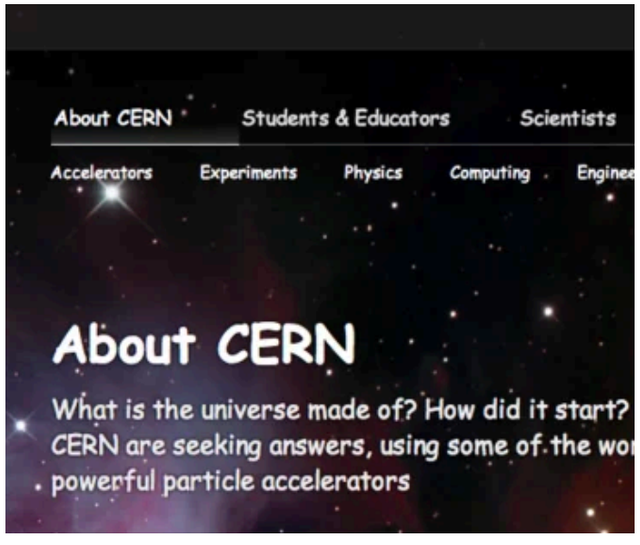
Summary

The human brain is always perceiving meaning (even when it is not intended)

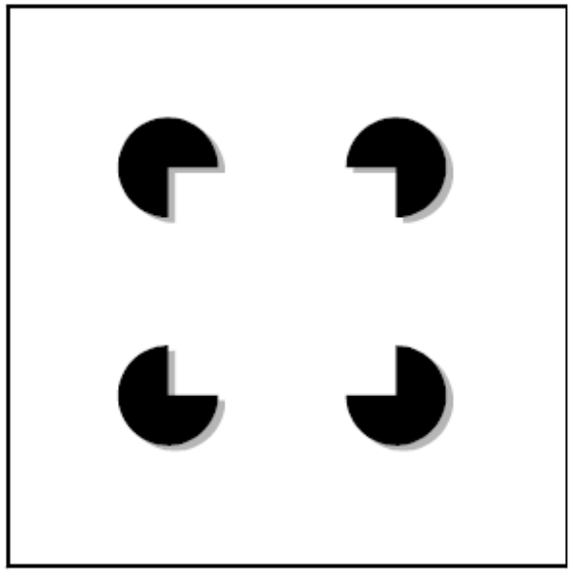
Color



Font

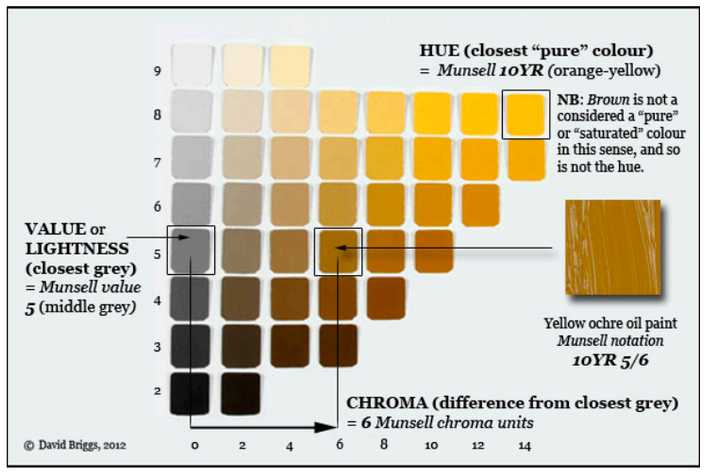


Gestalt



As a designer, you have to know how these principles are **represented by the system**, and how they are **interpreted by the user.**

Color



Font

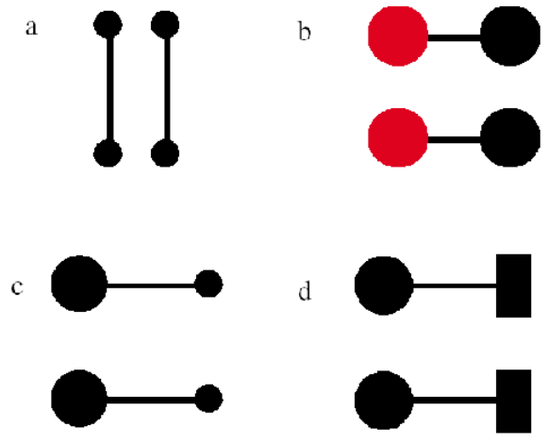
Typography

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

Gestalt