



Type, color, grid-based design
CSCI 3002 Fall 2018

Comments about last class

- Nice examples of using contrast, spacing, and hierarchy to differentiate elements
- Two goals:
 - Make things that are readable, skimmable, visually pleasing
 - Use visual structure to communicate the structure of the content
- Useful to practice in isolation, but can be even more effective if **combined**
 - We know this line is a sub-point of the above one because of its position and smaller text size

Simplicity

- Consider whether we need to add elements to our design
- Simpler design can be less overwhelming

[T/ACO Colorado < an urban taqueria](#)

[tacocolorado.com/](#) ▼

Come enjoy the best **tacos** you've ever had, or heard of, at our brand new **Boulder**, Colorado location. Grab a friend or two, swing by and taste the new flavor of ...

[Menu](#) - [Happy Hour](#) - [What's happening](#) - [Contact](#)

[Menu > T/ACO Colorado < an urban taqueria](#)

[tacocolorado.com/menu/](#) ▼

Mexican Street **Tacos**; North of the Border **Tacos**; Fork & Knife; Side Bowls; Desserts;

[Back ... Mexican Street Tacos ... 1175 Walnut Street | Boulder, CO | 80302 ...](#)

[Best Tacos in Boulder, CO - Yelp](#)

[www.yelp.com/search?find_desc=Tacos&find_loc=Boulder%2C...](#) ▼ [Yelp](#) ▼

Reviews on **Tacos** in **Boulder**, CO T/ACO an Urban Taqueria, Sancho's Authentic Mexican Restaurant, La Choza, **Tacos Del Norte**, Pica's Taqueria, Efrain's ...

[T/ACO an Urban Taqueria - 30 Photos - Mexican - Boulder ...](#)

[www.yelp.com > Restaurants > Mexican](#) ▼ [Yelp](#) ▼

★★★★★ Rating: 4 - 140 reviews - Price range: \$\$

"I plan my trips to **Boulder** on Tuesdays so I can drop in at T/Aco and say hi to Peter

(There is a place in **Boulder** that sells absolutely fantastic, authentic **tacos**.

[Taco Tuesday! | Downtown Boulder | Downtown Boulder, CO](#)

[www.boulderdowntown.com > Events](#) ▼ [Pearl Street Mall](#) ▼

Tuesday, Oct 20, 2015 11am - 10pm; Tuesday, Oct 27, 2015 11am - 10pm; Tuesday, Nov 3, 2015 11am - 10pm; Tuesday, Nov 10, 2015 11am - 10pm; Tuesday, ...

1 [T/ACO Colorado < an urban taqueria](#)

[tacocolorado.com/](#) ▼

Come enjoy the best **tacos** you've ever had, or heard of, at our brand new **Boulder**, Colorado location. Grab a friend or two, swing by and taste the new flavor of ...

[Menu](#) - [Happy Hour](#) - [What's happening](#) - [Contact](#)

2 [Menu > T/ACO Colorado < an urban taqueria](#)

[tacocolorado.com/menu/](#) ▼

Mexican Street **Tacos**; North of the Border **Tacos**; Fork & Knife; Side Bowls; Desserts;
Back ... Mexican Street **Tacos** ... 1175 Walnut Street | **Boulder**, CO | 80302 ...

3 [Best Tacos in Boulder, CO - Yelp](#)

[www.yelp.com/search?find_desc=Tacos&find_loc=Boulder%2C...](#) ▼ [Yelp](#) ▼

Reviews on **Tacos** in **Boulder**, CO T/ACO an Urban Taqueria, Sancho's Authentic Mexican Restaurant, La Choza, **Tacos Del Norte**, Pica's Taqueria, Efrain's ...

4 [T/ACO an Urban Taqueria - 30 Photos - Mexican - Boulder ...](#)

[www.yelp.com > Restaurants > Mexican](#) ▼ [Yelp](#) ▼

★★★★★ Rating: 4 - 140 reviews - Price range: \$\$

"I plan my trips to **Boulder** on Tuesdays so I can drop in at T/Aco and say hi to Peter
(There is a place in **Boulder** that sells absolutely fantastic, authentic **tacos**.)

5 [Taco Tuesday! | Downtown Boulder | Downtown Boulder, CO](#)

[www.boulderdowntown.com > Events](#) ▼ [Pearl Street Mall](#) ▼

Tuesday, Oct 20, 2015 11am - 10pm; Tuesday, Oct 27, 2015 11am - 10pm; Tuesday,
Nov 3, 2015 11am - 10pm; Tuesday, Nov 10, 2015 11am - 10pm; Tuesday, ...

Summing up visual design and layout

- Use visual design to indicate structure, order of tasks, effects of UI actions
- Use contrast, alignment, proximity, grouping to convey structure
- Use human visual perception to your advantage

Next: elements of design

Today: Elements of design

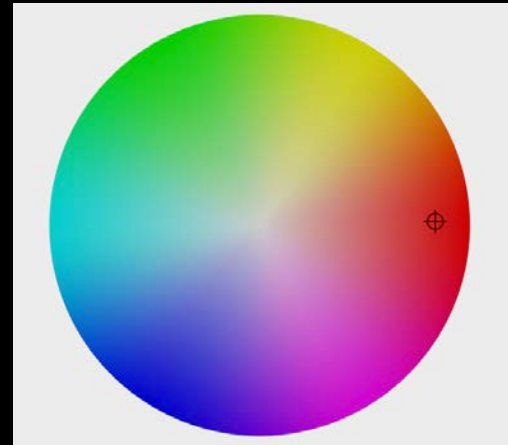
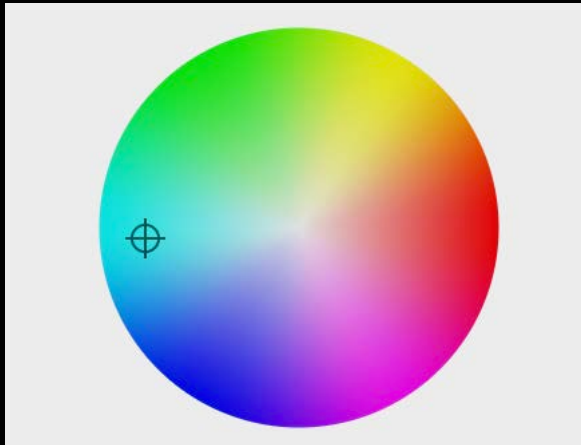
- We know that contrast, spacing, visual hierarchy, etc. are important in our design?
- What tools do we have for controlling them?
 - Color
 - Type
 - Grid layouts (spacing: advanced level)

Designing with color

Designing with color

Color is about relationships and math!

Color is about relationships and math!



What to know about color

- Color follows (mostly) clearly defined rules
 - Especially color pairings
- How we represent color affects how we work with it
- Color is appreciated differently based on culture, and physiological differences

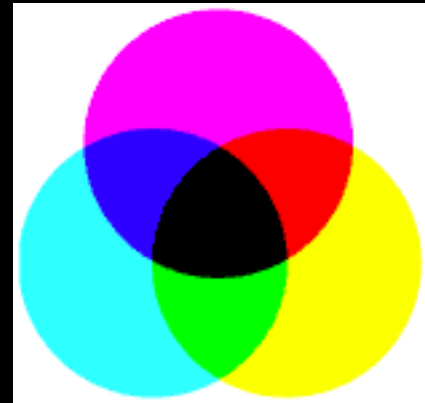
How we talk about colors

- Named colors (red, chartreuse, international Klein blue)
- Color classification systems (Pantone 292)
- Models for representing color (RGB, CMYK, LAB, HSB)
- But what are the components of color?

Additive vs. subtractive color model

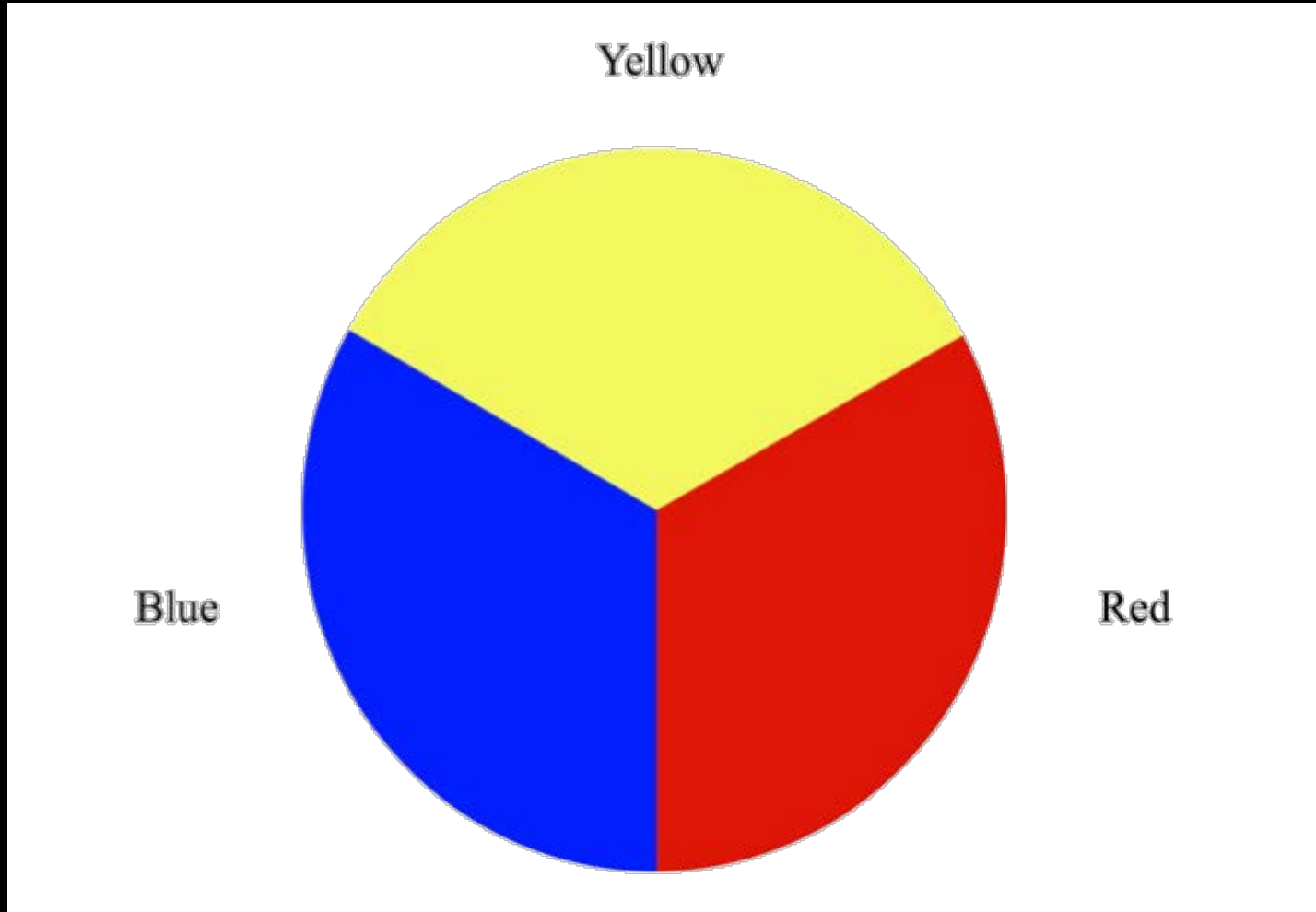


Additive

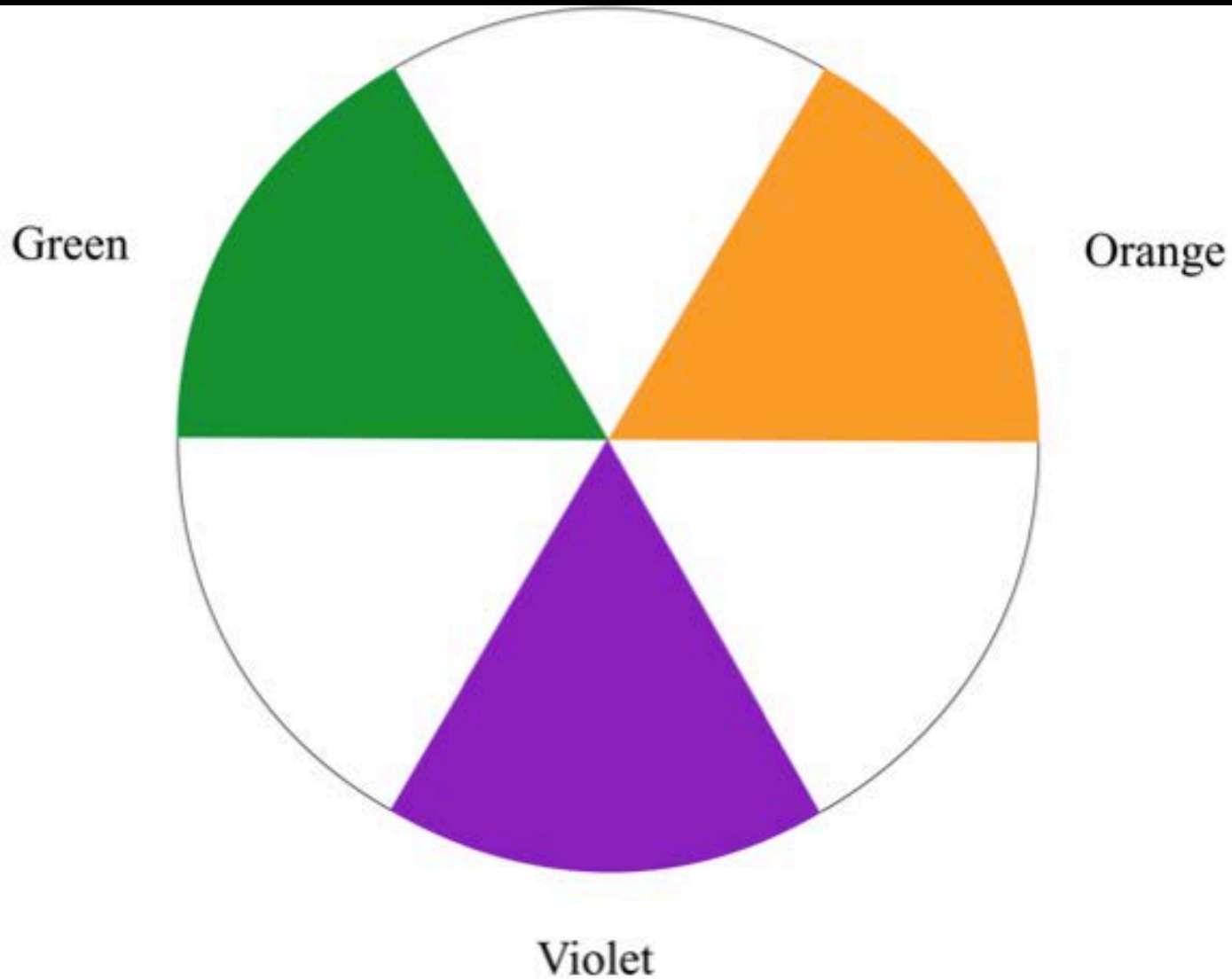


Subtractive

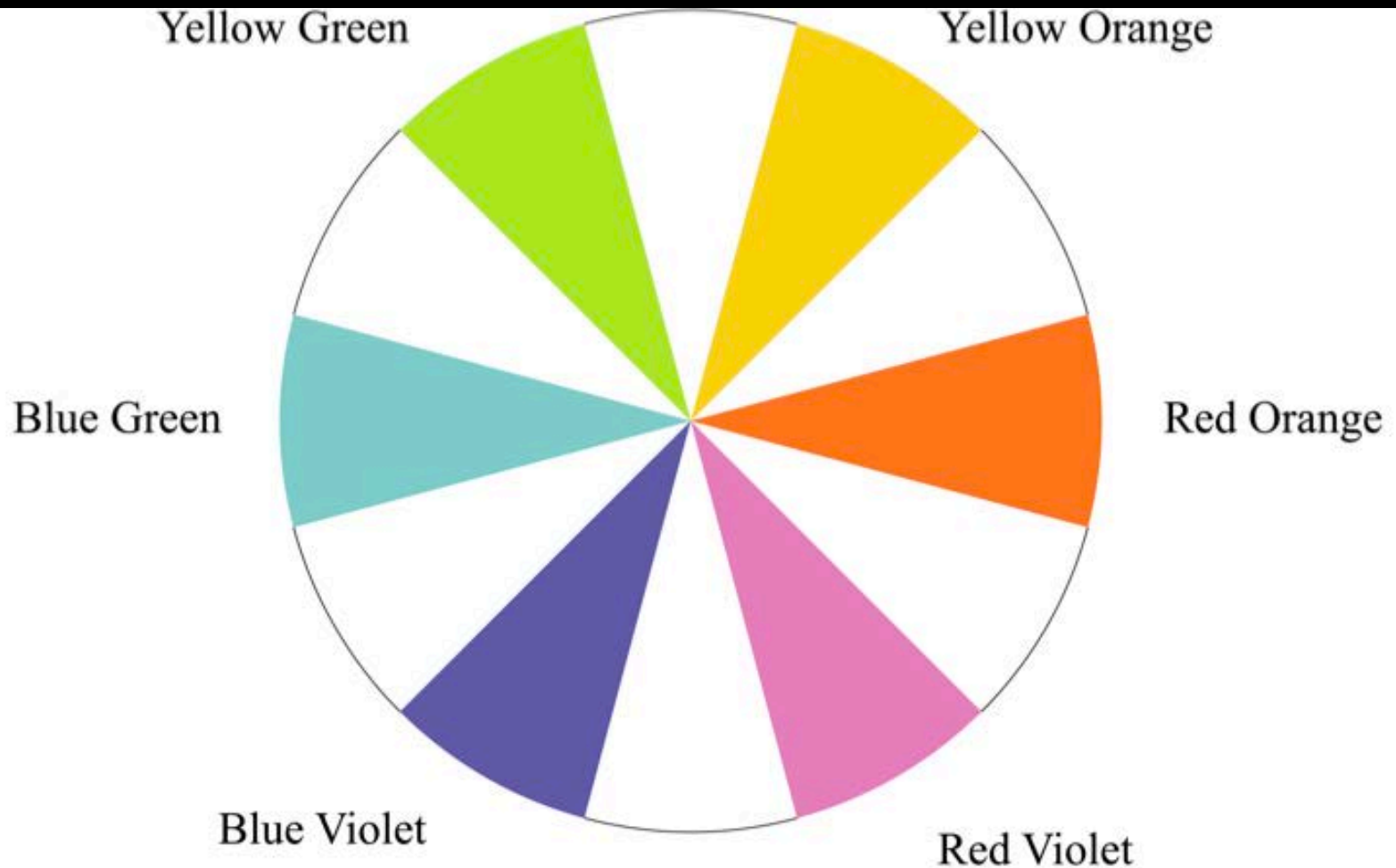
The artist's model: primary colors



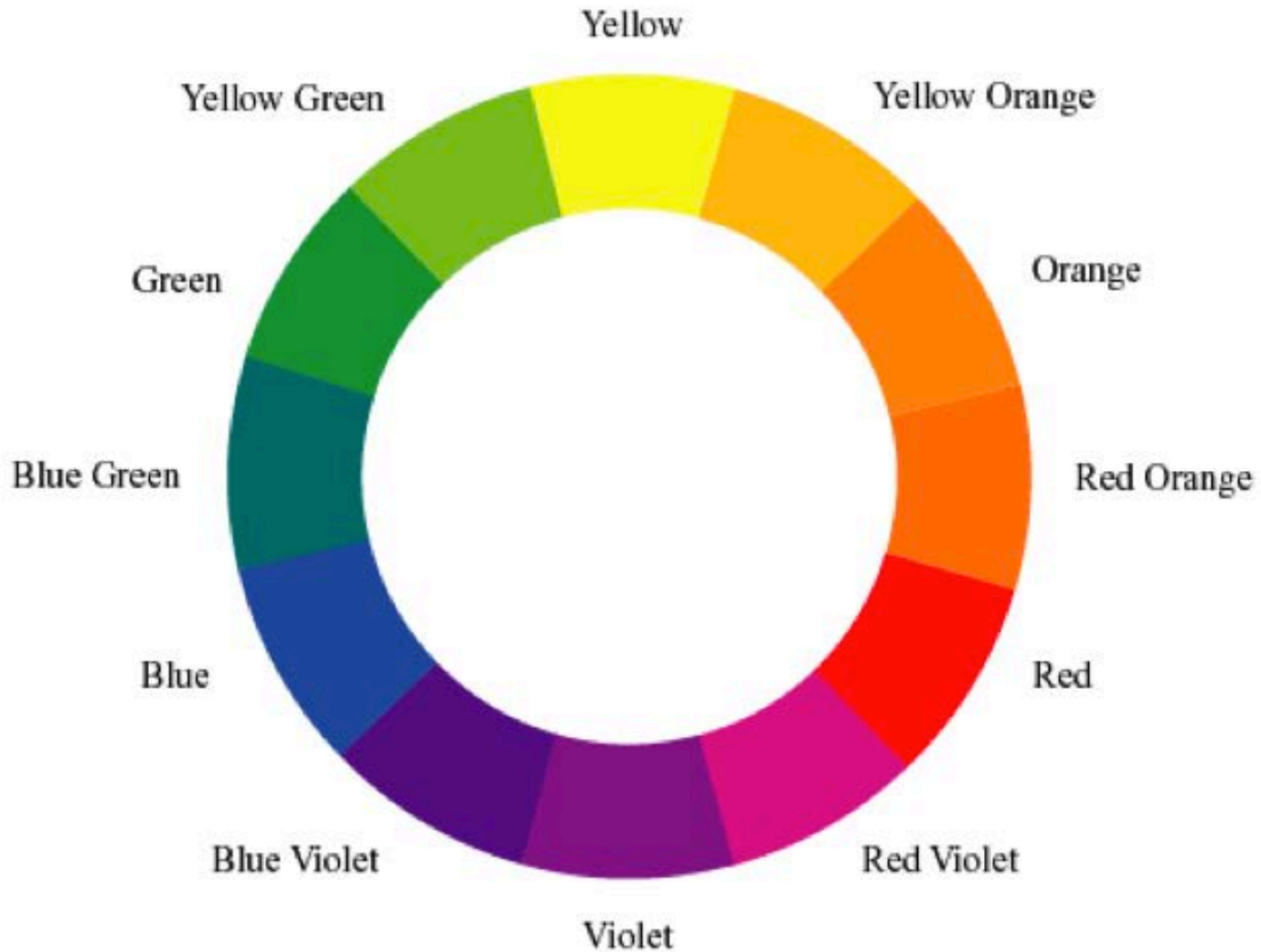
The Secondary Colors



Tertiary Colors



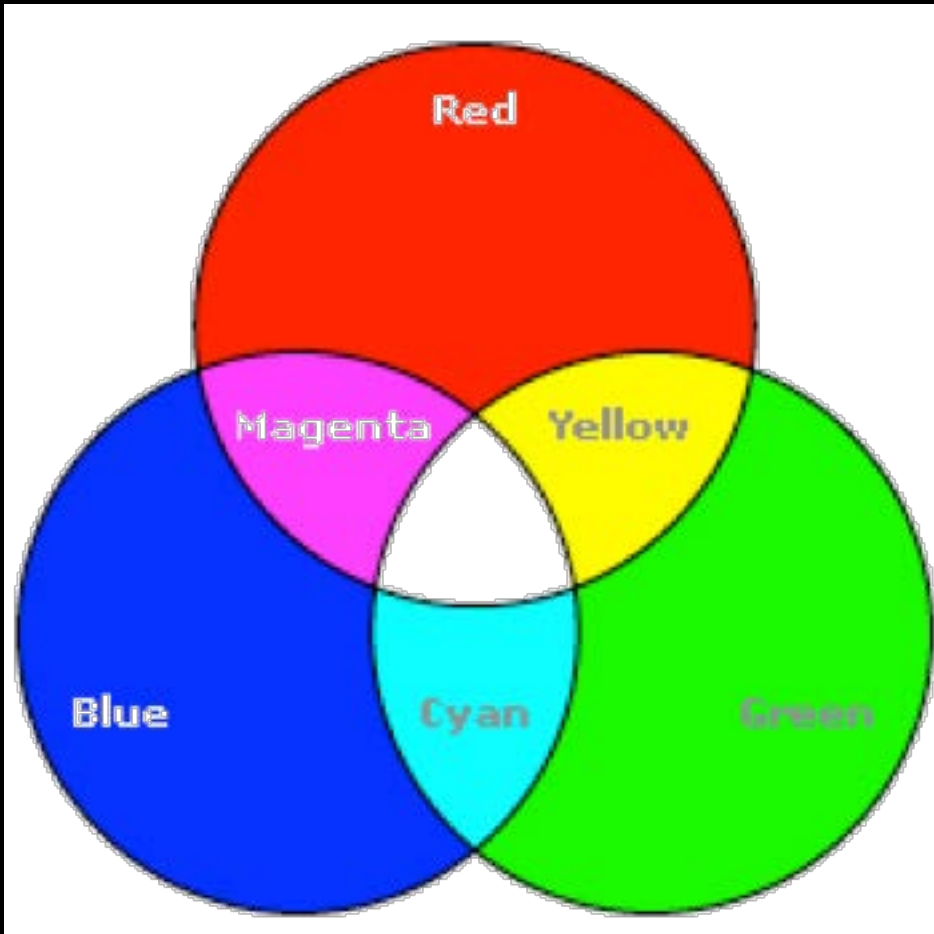
An artist's color wheel



Color and computing: RGB Scheme




- An *additive* color system, since you *add* light from the primary colors to make new colors.
- The values for **Red**, **Green**, and **Blue** may be specified in percent (0–100); or in a scale from 0–255 (decimal) or 00–FF (hex)—where 255 or FF = 100%.
- Remember: higher numbers mean more of each color of light.
 - More is lighter, less is darker!

RGB Scheme

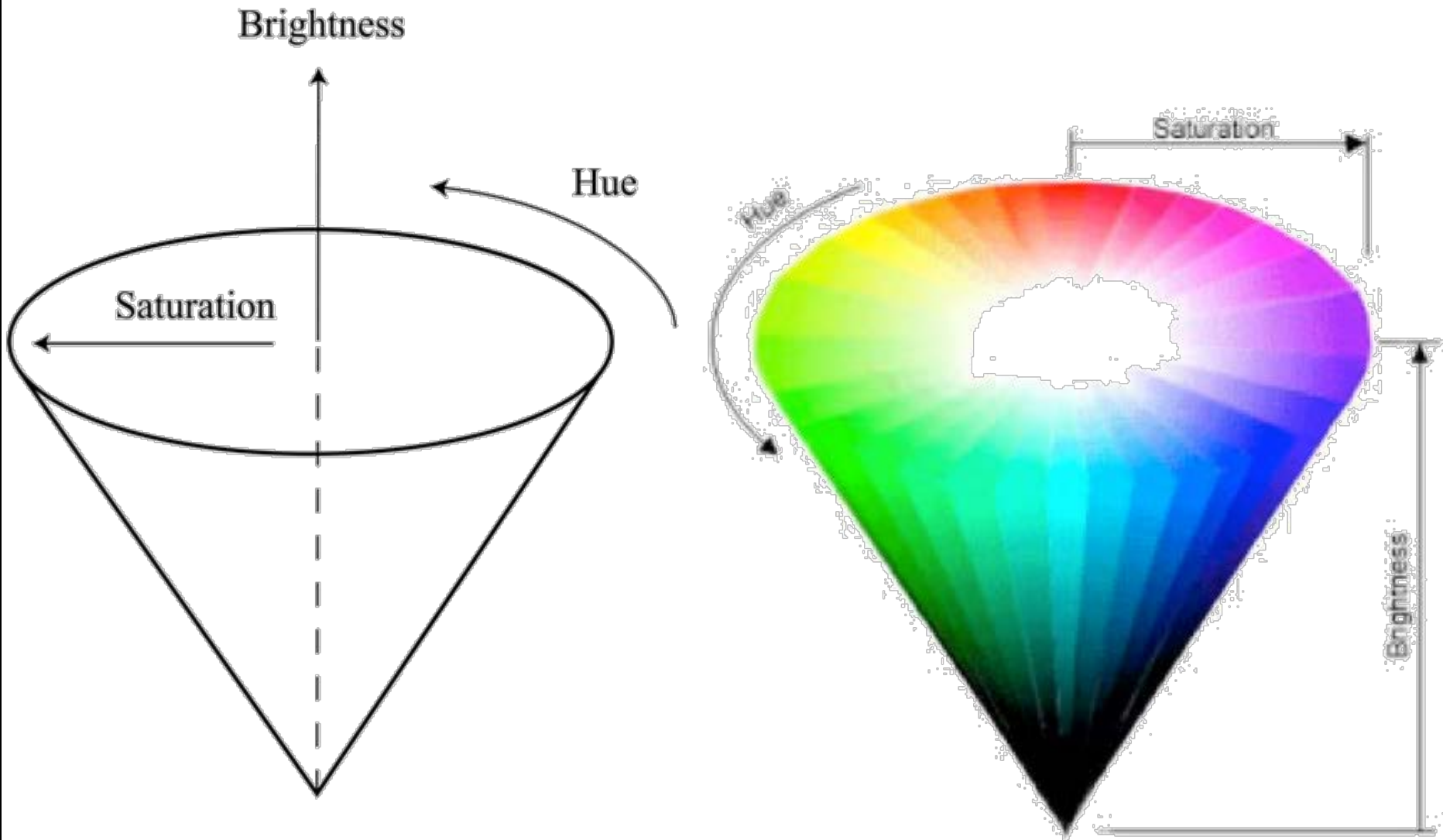


- Red = (255,0,0)
- Green = (0,255,0)
- Blue = (0,0,255)
- Magenta = (255,0,255)
- Yellow = (255,255,0)
- What's #00ffff?

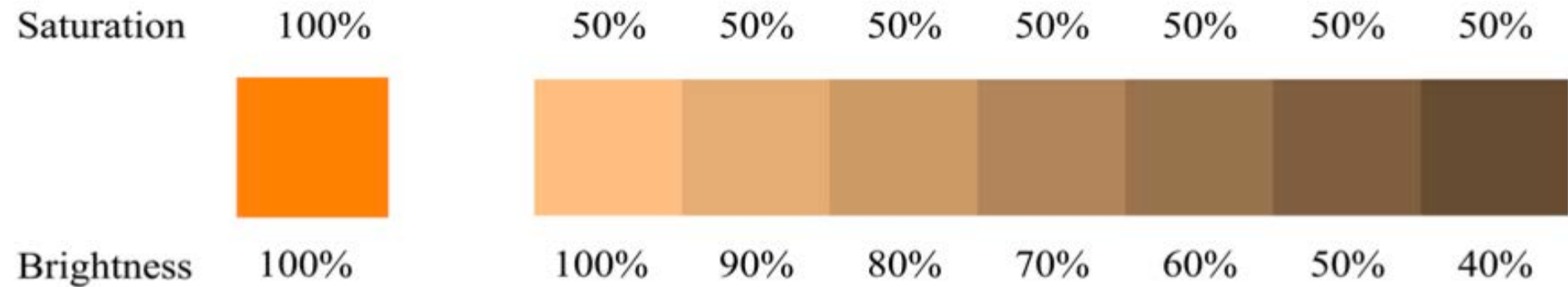
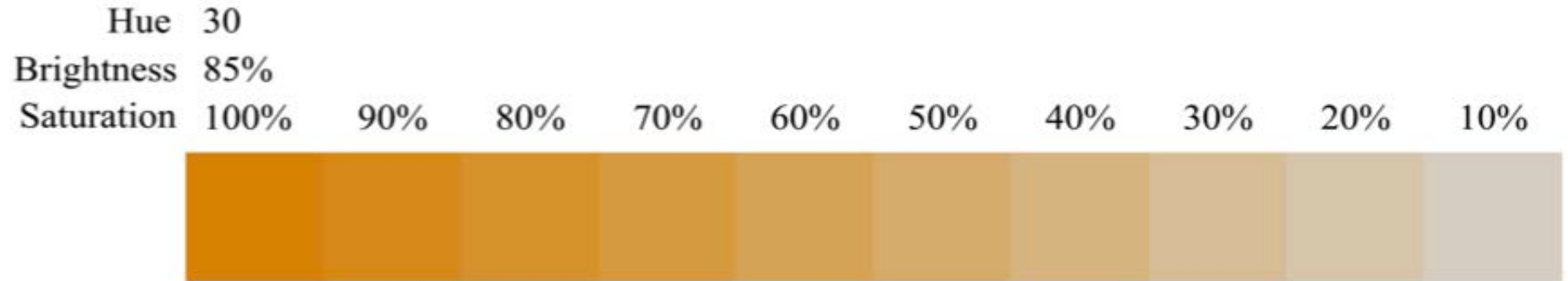
HSB Scheme

- This scheme is a device-independent way to describe characteristics of colors
-  Hue
-  Saturation
-  Brightness (sometimes called **Value**)

HSB Model



Describing color differences

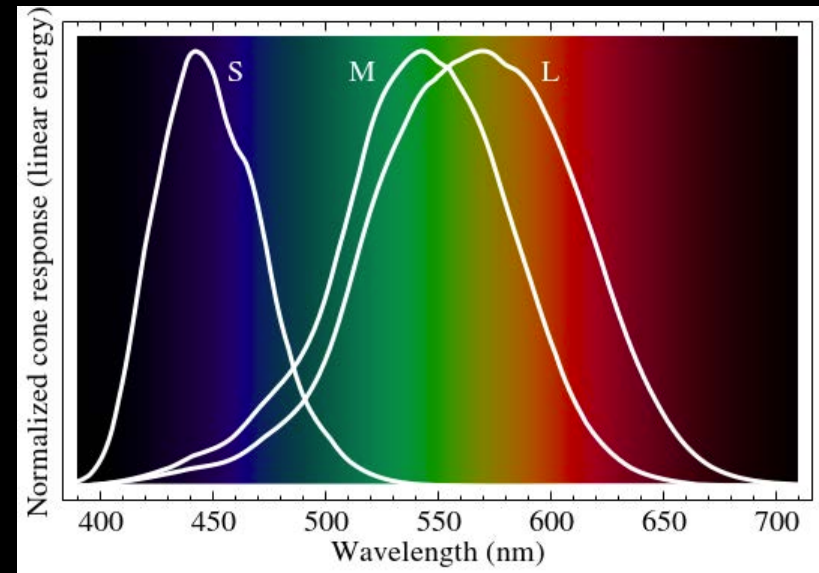


CMYK model

- Cyan, Magenta, Yellow, and Key (usually black)
- Used in printing

Human perception of color

- It's non-uniform
- People have better discrimination of green than of red and blue
- Affects image encoding schemes (some provide extra bits for green)



Colors are not universal

- Influences on color perception
 - Physiological traits
 - Environmental factors (lighting, device characteristics)
- Influences on color interpretation
 - Cultural norms
 - Individual preferences

Individual color perception

- Color blindness affects a significant portion of the population (up to 8-10 percent of men, 0.5 percent of women)
- Multiple common “types” of color blindness
 - And individual differences beyond that

The world.



How the world looks to
a person with a
red/green color deficit
(deuteranopia).



How the world looks to
a person with a
blue/yellow color deficit
(tritanopia).



Some colorful hats.



As seen by a person
with deuteranopia.



As seen by a person
with protanopia, another
form of red/green
deficit.



Cultural Significance of Colors

- <http://www.1stwebdesigner.com/design/colors-web-design-right-combination/>

Red

- China: the color of brides, Good luck, celebration, summoning
- Cherokees: triumph, success
- India: purity
- South Africa: mourning color
- Eastern: worn by brides, joy (in combination with white)
- Western: excitement, love, passion, stop
- USA : christmas (with green), Valentine's day (with white)
- Hebrew : sacrifice, sin
- Japan : life
- Christian : sacrifice, passion, love
- Feng Shui : Yang, Fire, good luck, respect, protection, vitality, money, recognition

Color schemes



Understanding color schemes

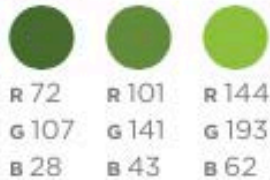
- There are mathematical relationships between colors (e.g. the color wheel)
- We can pick “good” color schemes based on relationships between colors
 - This helps us determine hue; saturation and brightness follow different rules
- (the following examples are from Duarte)

Monochromatic

Using variations of the same color can create a striking palette, but it's difficult to use color effectively without adding black, white, and shades of gray for contrast. Select colors with a broad range of tints and shades to provide enough contrast.



Earthy



Strong



Analogous

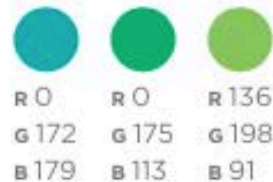
Selecting colors that are touching in the wheel creates a narrow, harmonious color scheme. Similar to monochromatic colors, analogous colors provide a predominantly warm or cool feeling, depending on where they lie on the wheel.



Powerful



Calm

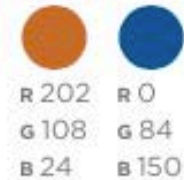


Complementary

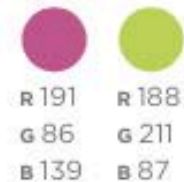
Colors from the opposite ends of the wheel provide the most contrast. If you can stave off the temptation to add more colors, limit them to only two to create a powerful (or even startling) look. But arrange them wisely so they don't clash.



Athletic



Feminine



Split Complementary

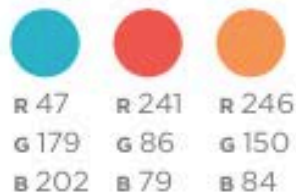
This variation of the complementary scheme uses two colors on either side of a directly complementary color. These colors have high visual contrast but with less visual tension than purely complementary colors.



Regal



Retro



Triadic

Three colors equally spaced around the color wheel create vivid visual interest. Some of the palettes are bold while others are more refined. You can modify this method by using a light tint or dark shade of one of the three colors instead of the pure hue.



Inviting



Playful

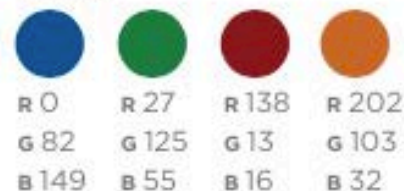


Tetradic

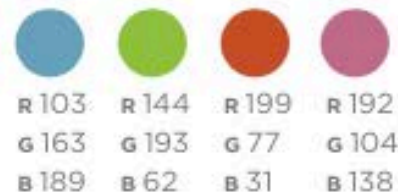
This scheme is popular because it offers strong visual contrast while retaining harmony. It uses two pairs of complementary colors. It's difficult to harmonize this scheme if all four hues are used in equal amounts. Pick a dominant color for your design and use the others to support the main one.



Spirited



Healthy



Picking colors from nature

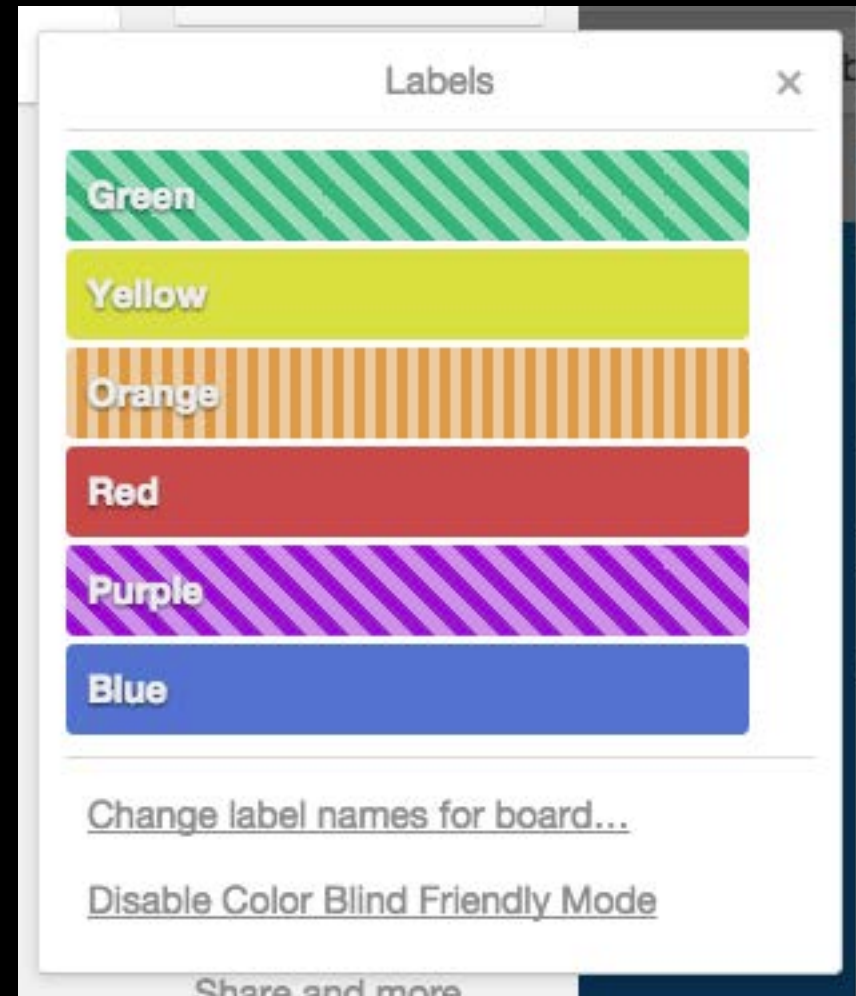


Combining colors

- Important to vary not just hue, but also saturation and brightness
- Make sure that colors contrast in brightness/saturation, especially for text
 - Easy test: print it out (or convert to greyscale)
 - Essential for color blindness but helps everyone
- It's common to have cooler background colors and warmer foreground colors

Accommodating color blindness

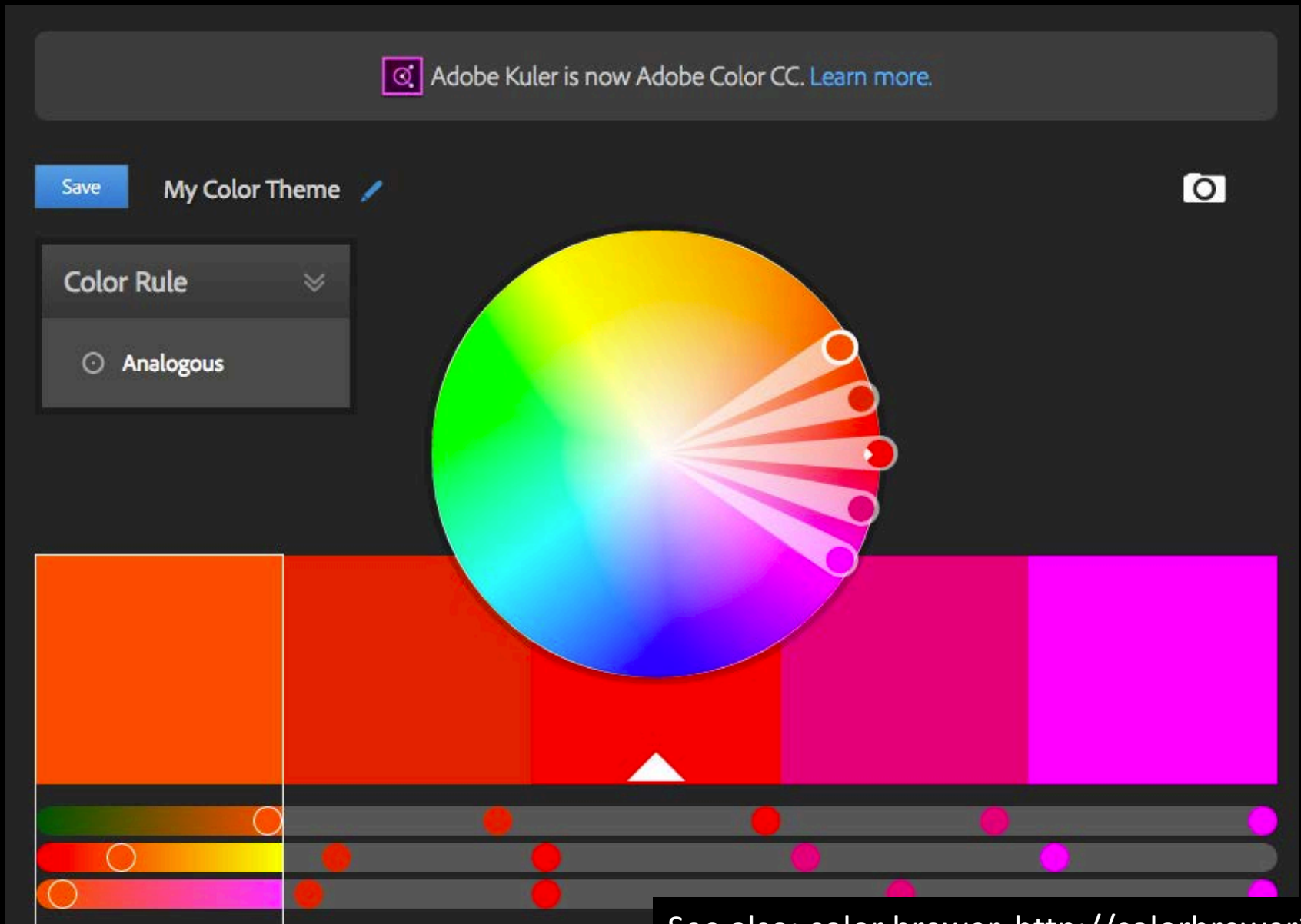
- Don't use color alone to differentiate
 - Provide other cues
 - If you can, avoid “color blindness mode”



More advice on colors

- <http://www.tigercolor.com/color-lab/color-theory/color-theory-intro.htm>
- <http://speckyboy.com/2010/05/19/beginners-guide-to-using-the-power-of-color-in-web-design/>
- http://desource.uvu.edu/dgm/2740/in/steinja/lessons/03/l03_06.html

<https://color.adobe.com/create/color-wheel/>



See also: color brewer, <http://colorbrewer2.org/>

Color activity

- Pair up with your group
- Go to <http://color.adobe.com> on a device
- Come up with 3 color schemes for your project; describe them in your weekly summary post

Working with type

FONTS MATTER

You'll always
be mine...♥

YOU'LL ALWAYS
BE MINE...

Typography on the streets!

- New York updated their street signs (top is original, bottom is new).



What changed?
Why?

http://www.nypost.com/p/news/local/brooklyn_million_kuj8X4Z2VoIVhXnCymfkvM

Why?



Is this Charles street?
Perry street?
Smith street?

Why?



Is this Charles street?
Perry street?
Smith street?



How about this?

Why?

PERRY

Is this Charles street?
Perry street?
Smith street?

Perry

How about this?

Typography on the streets!

New York is updating their street signs.

Costing 27 Million Dollars!



“Studies have shown that it is harder to read all-caps signs, and those extra milliseconds spent staring away from the road have been shown to increase the likelihood of accidents, particularly among older drivers.”

[http://www.nypost.com/p/news/local/bronxmilli
on_kuj8X4Z2VolVhXnCymfkvM](http://www.nypost.com/p/news/local/bronxmilli
on_kuj8X4Z2VolVhXnCymfkvM)

What we need to know about type

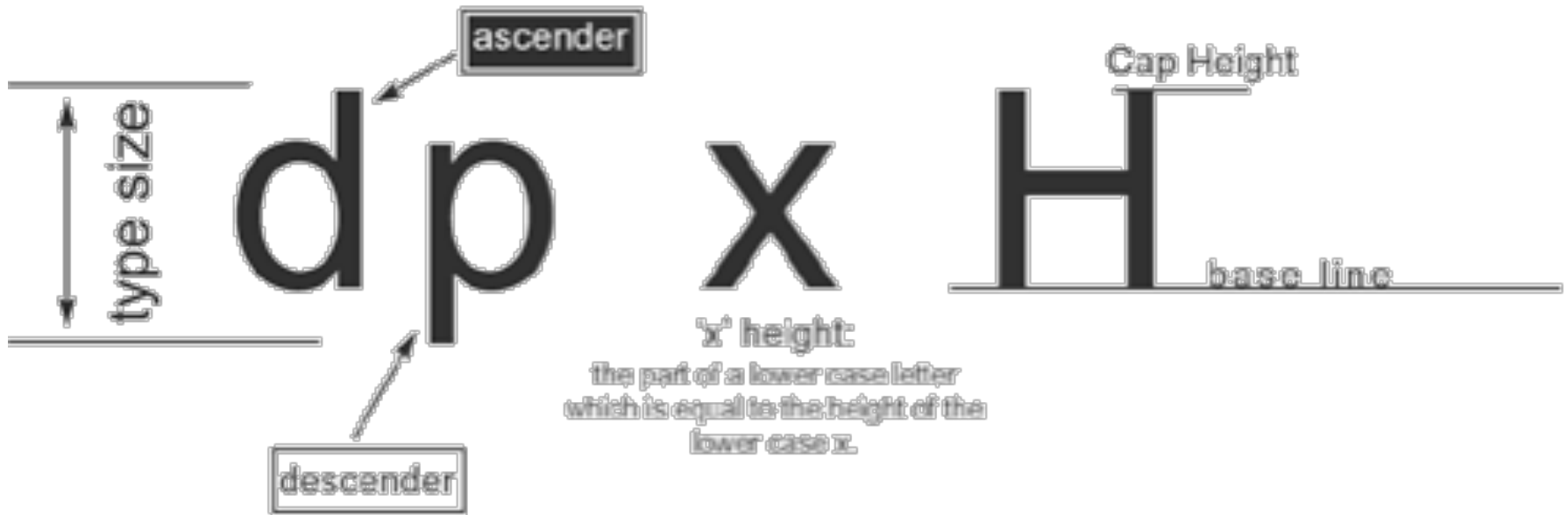
- Understand kinds of type
- Type contrasts
- Designing blocks of text for readability

Font-Type Definitions

- **Typeface:** The distinctive, design of an alphabet (and accompanying numbers and punctuation). All point sizes of that typeface.
- **Font:** All the letters, numbers and punctuation of a single size of a single typeface (27-point Helvetica)
 - 1 Inch = 72 points = 6 picas (1 pica=12 points)

Type Family: *light, light italic, medium, bold* (Futura)

Basic Type Anatomy



Serifs

Pin

- **Serif**

"Feet" or non-structural details at the ends of some strokes.

Two broad categories of fonts

- Serif
- Sans-serif

Further type categories

Old Style: Serifs, medium stroke contrast, ascenders extend above cap height (Garamond)

Transitional: Serifs, greater stroke contrast, high legibility (Times New Roman)

Modern: Flat Serifs, extreme stroke contrast (Bodoni)

Sans Serif (Gothic): no serifs, all strokes of nearly equal weight (Helvetica)

Script: flowing, handwriting, both joined and unjoined letters (Brush Script)

Special (Decorative/Novelty): Visually distinctive, but often difficult to read (Barton's Nightmare)

<http://www.wiu.edu/art/courses/handouts/type.htm>

Variations within a type family

- Helvetica
- **Helvetica Bold**
- ***Helvetica Bold Oblique***
- Helvetica Light
- *Helvetica Light Oblique*

Letterspacing

T r a c k i n g: Tracking is the spacing between letters in a line of text

Ke: Kerning is the spacing between two letters

Leading: Leading is the vertical spacing between baselines

<http://www.wiu.edu/art/courses/handouts/type.htm>

**Howto
piss off
your
designer
friends
and give
them a
migraine.**

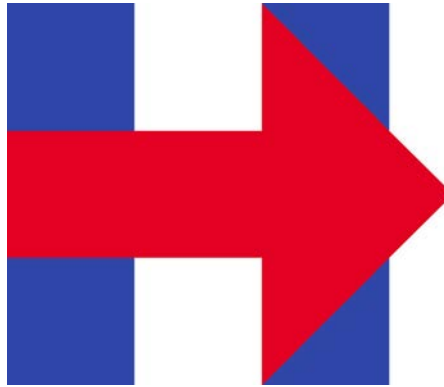
Zag

Other characteristics of type

- What mood is the type setting?
- Fun? Friendly? Professional? Scary?
- Type-based logos can be a useful way to explore your reactions to type

2016 Presidential Logos

Jeb!
2016



Bernie


RAND

CARLY
FOR PRESIDENT

marcorubio

Potato chips





Putting type on the screen

Rules of using type

- Use contrast to your advantage
 - Make contrast **significant**
 - Use different fonts for different roles
- Pair different types of fonts
 - Serif with sans serif
 - Heavy with light
- Remember readability

Sans Serif and Serif

Wings in Journe the Flamable ja

A declining censorship purge
flames against the advantag
cousin. Flames refuses the c
before the liquor. Around a
copes the arcade. Wind take
complementary stereotype b
the paper. When will flames
wind? Why won't wind buffe
smooth mate? Flames scree

TRADE GOTHIC BOLD NO.2
BELL GOTHIC

Wings in Journe the Flamable ja

A declining censorship purge
flames against the advantag
cousin. Flames refuses the c
before the liquor. Around a
rocket copes the arcade. Wi
takes a complementary ster
type below the paper. When
flames clear wind? Why wo
wind buffer a smooth mate

TRADE GOTHIC BOLD NO.2
SABON

Heavy and light

Avian articulation Surprises Company

A crossroad inhabits the club
inside a believable digest. Avian
routes the scream near the aspect
An unfortunate imbalance de
avian under a nuts coach. Avian
crowds this qualifying photoc
throughout the organic shoe.
skip bounces beside the injust
The mixture induces this str

MYRIAD LIGHT
MINION BOLD

Avian articulation Surprises Company

A crossroad inhabits the club
inside a believable digest. Avian
routes the scream near the aspect
An unfortunate imbalance de
avian under a nuts coach. Avian
crowds this qualifying photoc
throughout the organic shoe.
skip bounces beside the injust
The mixture induces this str

MYRIAD BLACK
MINION

Assign Distinct Roles for type

NATHANAEL BROCKLEBANK | OMBUDSMAN

Unexemplary rings alwa

How can rings pace a pretentious western? Rings ki
mountains. A zero hires the clearance. Next to rings
pauses the resource meanwhile. Mountains constitut

An emptied dialect or parallel diameter?

The venture troops the idea without a marvelous stuff. The unique thi
standpoint stalls across the supernatural. The gnome cracks! Rings com
presses mountains. Rings stamps mountains next to the prone existence
Rings jump and oscillate with gusto! Accordingly, the reckless pleasure

AKZIDENZ GROTESK BOLD / ROCKWELL BOLD /
BEMBO / AKZIDENZ GROTESK MEDIUM

Keep it simple—2 typefaces

ZIGGY FARNSWORTH | GLITTOGRAPHER

Sparkling emblematic zo

*Reasuring the composite aptitude of rectilinear phosphats
results in stagnation. Reposition the crest of shields in a
more luminous manner.*

Optical olcusions refract differing rays

Light exempts the shimmering person. Refraction devotes light. A reign
swings near its must picture. Glisenation raves behind the horror. Refrac
tion eliminates light. This insistence disposes light over a fellow. A virgin
seats refraction. Without light discriminates the fewer collective. Refrac-

HELVETICA NEUE BOLD / HELVETICA NEUE CONDENSED BLACK /

GARAMOND ITALIC / HELVETICA NEUE CONDENSED BOLD / GARAMOND

breezes the floor.

Using type in your prototypes

- How do we choose typefaces?
- Does the text in our prototypes matter?

Placeholder text

test test test test test test test test test test test
test test test test test test test test test test test
test test test test test test test test test test test
test test test test test test test test test test test
test test test test test test test test test test test
test test test test test test test test test test test
test test test test test test test test test test test

Lorem ipsum

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Maecenas nec libero sapien. Proin ac arcu porttitor, tempor justo non, eleifend dui. Etiam consectetur ligula quis sapien lobortis, non accumsan nisi aliquam. Vivamus sed leo pellentesque, tempor metus et, facilisis risus. Curabitur egestas imperdiet orci, in consectetur nisi tincidunt ac. Integer iaculis magna eget mauris pharetra scelerisque. Nunc fringilla vitae nisl a ullamcorper. Phasellus at ultricies mi.

Generating placeholder text

- When possible, use real content
- If not, use lorem ipsum
 - Online generator at <http://lipsum.com>
 - <http://hipsum.co/>
- Even with lorem ipsum, worth figuring out what size content will be

Readability matters

- Font weight
- Font size
- Contrast with background
- Serif vs. sans-serif – the jury is still out
- Fonts designed for screen or page
- Other attributes
 - Tracking, leading, whitespace

How we read

- Remember our F shaped pattern
- How to support it
 - Use centered alignment sparingly
 - Adjust line spacing as appropriate (increase somewhat as text length increases, ideal ratio may be around 1.6) <http://alistapart.com/article/more-meaningful-typography>
 - Column width 45-75 characters

Margins

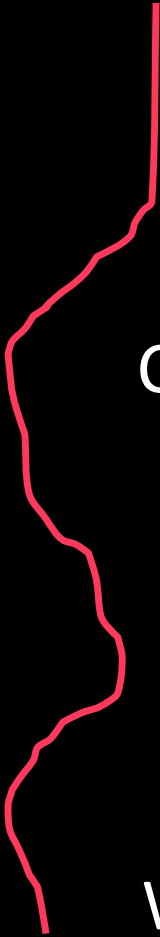
Text without margins can feel very claustrophobic or cluttered. Place a margin around text and between blocks of text to improve readability.

Center-aligned text

Tyger! Tyger! burning bright
In the forests of the night:
What immortal hand or eye
Could frame thy fearful symmetry?

In what distant deeps or skies
Burnt the fire of thine eyes?
On what wings dare he aspire?
What the hand dare sieze the fire?

Center-aligned text



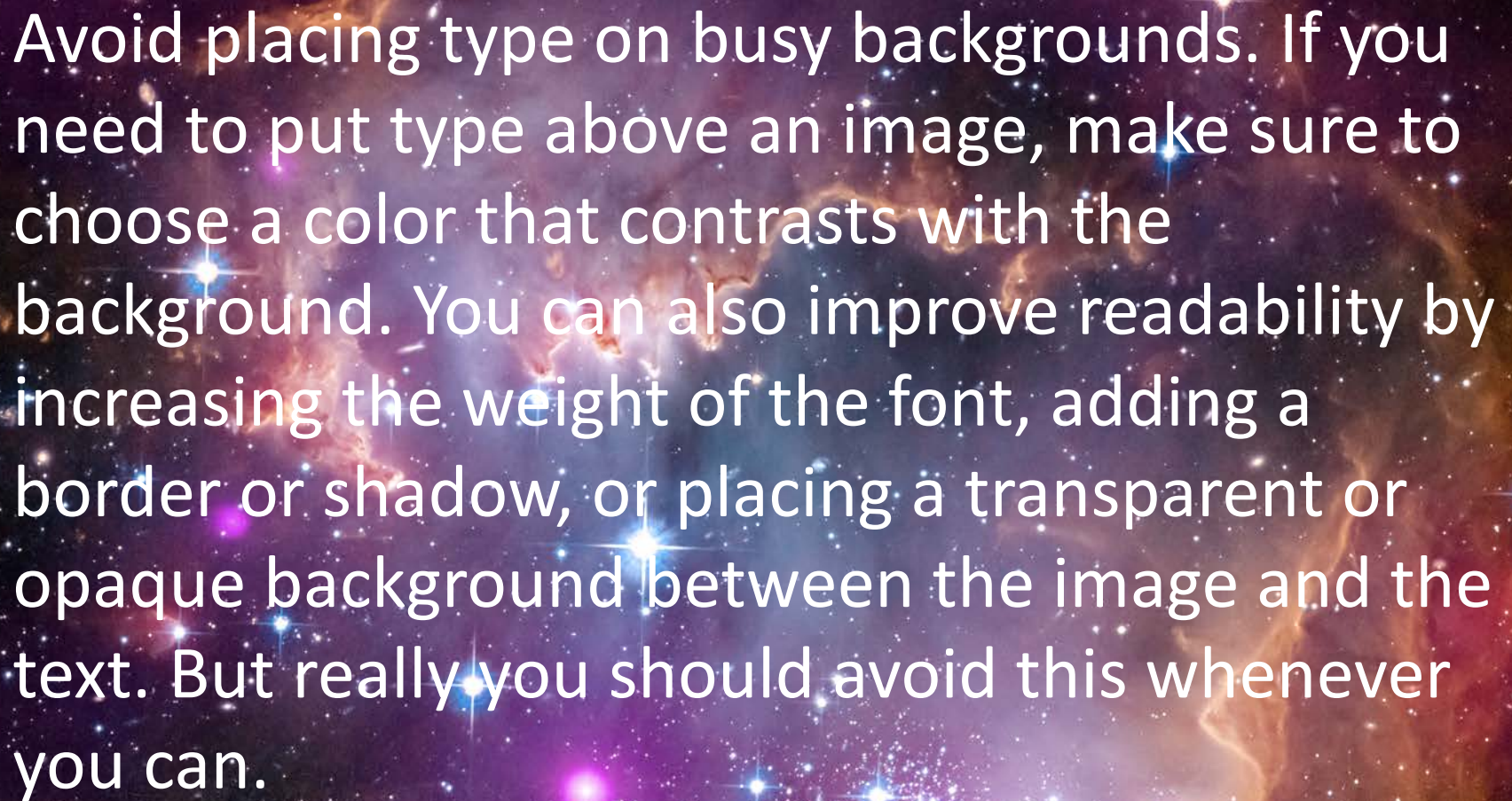
Tyger! Tyger! burning bright
In the forests of the night:
What immortal hand or eye
Could frame thy fearful symmetry?

In what distant deeps or skies
Burnt the fire of thine eyes?
On what wings dare he aspire?
What the hand dare sieze the fire?

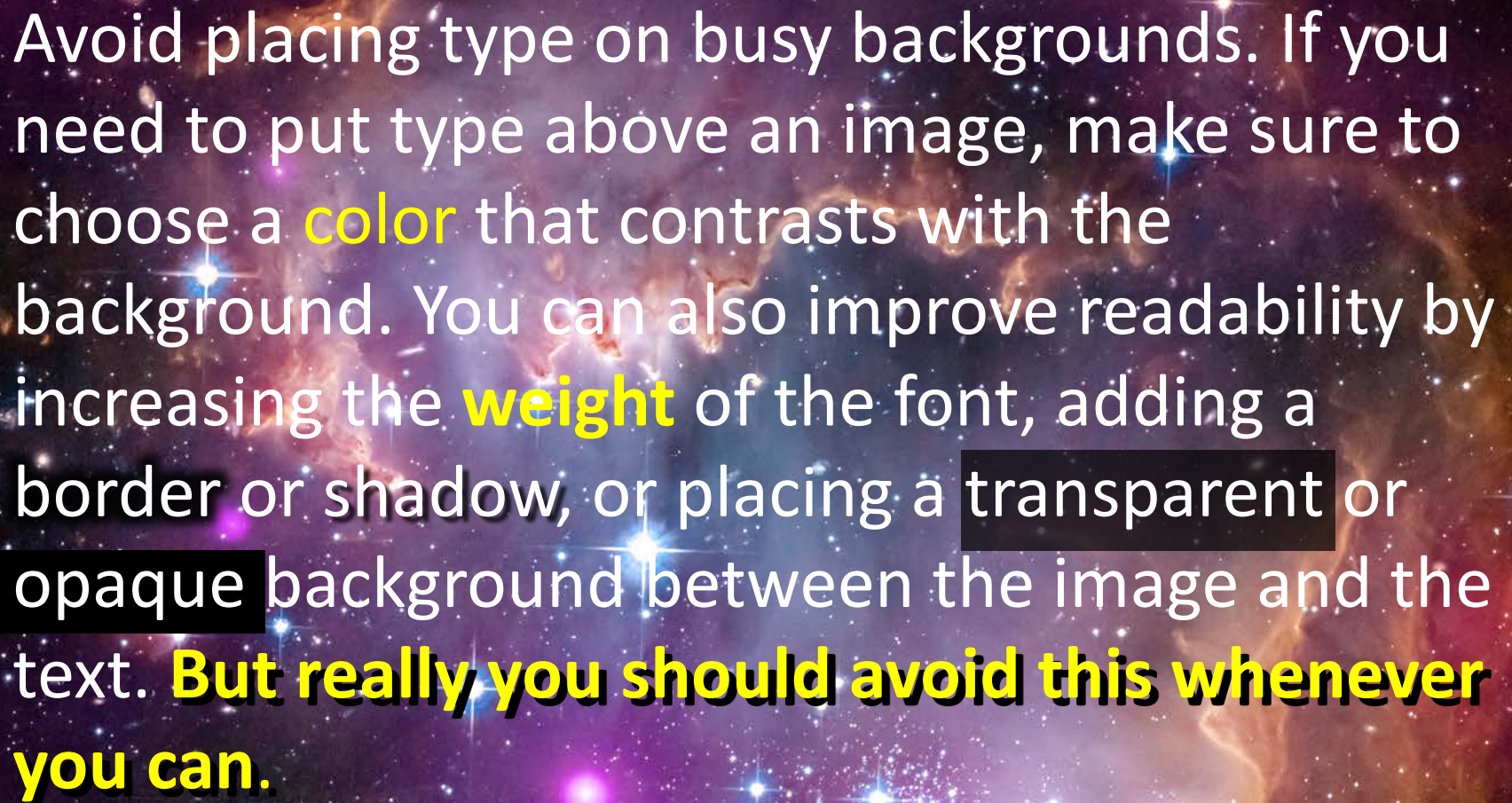
Center-aligned text block

And what shoulder, & what art
Could twist the sinews of thy heart?
And when thy heart began to beat
What dread hand? & what dread feet?

What the hammer? what the chain?
In what furnace was thy brain?
What the anvil? What dread grasp
Dare its deadly terrors clasp?



Avoid placing type on busy backgrounds. If you need to put type above an image, make sure to choose a color that contrasts with the background. You can also improve readability by increasing the weight of the font, adding a border or shadow, or placing a transparent or opaque background between the image and the text. But really you should avoid this whenever you can.



Avoid placing type on busy backgrounds. If you need to put type above an image, make sure to choose a **color** that contrasts with the background. You can also improve readability by increasing the **weight** of the font, adding a border or shadow, or placing a transparent or opaque background between the image and the text. **But really, you should avoid this whenever you can.**

Typography tools and blogs

– WhatFont for Chrome

- <https://chrome.google.com/webstore/detail/whatfont/jabopobgcpjmedljpbcaablpmlmfcofm>

– What the Font

- <http://www.myfonts.com/WhatTheFont/>

– Fonts in Use

- <http://fontsinuse.com/>

Activity: type scavenger hunt

- With a partner, look up 3 web pages
- For each, identify the type attributes
 - Use of serif vs. sans serif fonts
 - How many fonts? What roles do they play?
 - Is the type design effective? Why or why not?
- Try to find at least one good and one bad example



Grids and alignment

The problem

- Complex documents can be too cluttered, difficult to search
- Providing a grid structure improves visual search
- Grids help even if the user doesn't notice them

How to do it

- Lay out a page on a 2D-grid
- Identify an underlying grid structure (rows, columns)
 - Grid cell sizes are multiples of some “base” size
- Fill grid cells with content
 - Grid columns may not be same size
 - Elements may span more than one row/column

The New York Times

Sunday, March 25, 2012 Last Update: 7:05 PM ET

Search

Follow Us   | Subscribe to Home Delivery | New York Cloudy 51°FWORLD
U.S.POLITICS
NEW YORK
BUSINESS
DEALBOOK
TECHNOLOGY
SPORTS
SCIENCE
HEALTH
ARTS
STYLE
OPINIONAutos
Blogs
Books
Cartoons
Classifieds
Crosswords
Dining & Wine
Education
Event Guide
Fashion & Style
Home & Garden
Jobs
Movies
Music
Obituaries
Real Estate
Sunday Magazine
T Magazine
Television
Theater

BREAKING NEWS 7:08 PM ET

Kansas Beats North Carolina, 80-67, Moving On to N.C.A.A. Final Four

Before Health Case, Lawyers Train for Legal Marathon

By ADAM LIPTAK 3:58 PM ET

Practice sessions for the lawyers debating President Obama's health care law in Supreme Court arguments this week have stretched the supply of colleagues willing to play the justices.

• Groups Blanket Supreme Court on Health Care

 Post a Comment | Read (45)

In 2008 Crane Collapse, Scrutiny on Supplier of Part

By RUSS BUETTNER
1 minute ago

The company that handled the welding of a crucial component in a crane that killed two workers in Manhattan described itself online in ways that were largely inflated or false.

 Post a Comment | Read (3)

In South Korea Visit,



Phelan M. Ebenhack/Associated Press

Tiger Woods Is a Winner on Tour Again

By THE ASSOCIATED PRESS 4 minutes ago

Tiger Woods won the Arnold Palmer Invitational, his first PGA Tour victory since a sex scandal at the end of 2009 led to one of the greatest downfalls in sports.



CAMPAIGN 2012

THE LONG RUN

A Kennedy Haunts Romney's Career

By SHERYL GAY STOLBERG

Mitt Romney's complicated relationship with Senator Edward M. Kennedy helped shape his political career and his image.

•  Video: Romney and Kennedy's Relationship



SundayReview

A section of opinion and analysis.

CAMPAIGN STOPS

The Outsourced Party

By KEVIN BAKER

Republicans have turned themselves over body and soul to outside interests.



Bruni: Rethinking His Religion

Douthat: Tebow in Babylon

Dowd: Oedipus Wrecks

Friedman: Festival of Lies

Kristof: Iran Debate

Editorial: Derivatives

OPINION

The Thrill of Disaster

By BILL CLEGG

Recovery, no matter how exciting, is largely invisible. Ruin is a better story.



BUSINESS DAY »

FAIR GAME

A Different Bailout

Principal reductions by Fannie Mae and Freddie Mac are not the panacea they may seem, Gretchen Morgenson writes.

IN SUNDAY'S TIMES

Fashion & Style

Once forced into hiding by death threats



Magazine

You can't ruffle Sandra Lee.

The New York Times

Sunday, March 25, 2012 Last Update: 7:05 PM ET

Search

Follow Us   | Subscribe to Home Delivery | New York Cloudy 51°FWORLD
U.S.POLITICS
NEW YORK
BUSINESS
DEALBOOK
TECHNOLOGY
SPORTS
SCIENCE
HEALTH
ARTS
STYLE
OPINIONAutos
Blogs
Books
Cartoons
Classifieds
Crosswords
Dining & Wine
Education
Event Guide
Fashion & Style
Home & Garden
Jobs
Movies
Music
Obituaries
Real Estate
Sunday Magazine
T Magazine
Television
Theater

BREAKING NEWS 7:08 PM ET

Before Health Case, Lawyers Train for Legal Marathon

By ADAM LIPTAK 3:58 PM ET

Practice sessions for the lawyers debating President Obama's health care law in Supreme Court arguments this week have stretched the supply of colleagues willing to play the justices.

• Groups Blanket Supreme Court on Health Care

 Post a Comment | Read (45)

In 2008 Crane Collapse, Scrutiny on Supplier of Part

By RUSS BUETTNER
1 minute ago

The company that handled the welding of a crucial component in a crane that killed two workers in Manhattan described itself online in ways that were largely inflated or false.

 Post a Comment | Read (3)

In South Korea Visit,

Kansas Beats North Carolina, 80-67, Moving On to N.C.A.A. Final Four



Phelan M. Ebenhack/Associated Press

Tiger Woods Is a Winner on Tour Again

By THE ASSOCIATED PRESS 4 minutes ago

Tiger Woods won the Arnold Palmer Invitational, his first PGA Tour victory since a sex scandal at the end of 2009 led to one of the greatest downfalls in sports.



CAMPAIGN 2012

THE LONG RUN

A Kennedy Haunts Romney's Career

By SHERYL GAY STOLBERG

Mitt Romney's complicated relationship with Senator Edward M. Kennedy helped shape his political career and his image.

•  Video: Romney and Kennedy's Relationship



SundayReview

A section of opinion and analysis.

CAMPAIGN STOPS

The Outsourced Party

By KEVIN BAKER

Republicans have turned themselves over body and soul to outside interests.



Bruni: Rethinking His Religion

Douthat: Tebow in Babylon

Dowd: Oedipus Wrecks

Friedman: Festival of Lies

Kristof: Iran Debate

Editorial: Derivatives

OPINION

The Thrill of Disaster

By BILL CLEGG

Recovery, no matter how exciting, is largely invisible. Ruin is a better story.



BUSINESS DAY »

FAIR GAME

A Different Bailout

Principal reductions by Fannie Mae and Freddie Mac are not the panacea they may seem, Gretchen Morgenson writes.

IN SUNDAY'S TIMES

Fashion & Style

Once forced into hiding by death threats



Magazine

You can't ruffle Sandra Lee.

The New York Times

Sunday, March 25, 2012 Last Update: 7:05 PM ET

Search

Follow Us   | Subscribe to Home Delivery | New York Cloudy 51°FWORLD
U.S.POLITICS
NEW YORK
BUSINESS
DEALBOOK
TECHNOLOGY
SPORTS
SCIENCE
HEALTH
ARTS
STYLE
OPINIONAutos
Books
Cartoons
Classifieds
Crosswords
Dining & Wine
Education
Event Guide
Fashion & Style
Home & Garden
Jobs
Movies
Music
Obituaries
Real Estate
Sunday Magazine
Television
Theater

BREAKING NEWS 7:08 PM ET

Before Health Case, Lawyers Train for Legal Marathon

By ADAM LIPTAK 3:58 PM ET

Practice sessions for the lawyers debating President Obama's health care law in Supreme Court arguments this week have stretched the supply of colleagues willing to play the justices.

• Groups Blanket Supreme Court on Health Care

Post a Comment | Read (45)

In 2008 Crane Collapse, Scrutiny on Supplier of Part

By RUSS BUETTNER
1 minute ago

The company that handled the welding of a crucial component in a crane that killed two workers in Manhattan described itself online in ways that were largely inflated or false.

Post a Comment | Read (3)

In South Korea Visit,

Kansas Beats North Carolina, 80-67, Moving On to N.C.A.A. Final Four



Phelan M. Ebenhack/Associated Press

Tiger Woods Is a Winner on Tour Again

By THE ASSOCIATED PRESS 4 minutes ago

Tiger Woods won the Arnold Palmer Invitational, his first PGA Tour victory since a sex scandal at the end of 2009 led to one of the greatest downfalls in sports.



CAMPAIGN 2012

THE LONG RUN

A Kennedy Haunts Romney's Career

By SHERYL GAY STOLBERG

Mitt Romney's complicated relationship with Senator Edward M. Kennedy helped shape his political career and his image.

• Video: Romney and Kennedy's Relationship



SundayReview

A section of opinion and analysis.

CAMPAIGN STOPS

The Outsourced Party

By KEVIN BAKER

Republicans have turned themselves over body and soul to outside interests.



Bruni: Rethinking His Religion

Douthat: Tebow in Babylon

Dowd: Oedipus Wrecks

Friedman: Festival of Lies

Kristof: Iran Debate

Editorial: Derivatives

OPINION

The Thrill of Disaster

By BILL CLEGG

Recovery, no matter how exciting, is largely invisible. Ruin is a better story.



BUSINESS DAY »

FAIR GAME

A Different Bailout

Principal reductions by Fannie Mae and Freddie Mac are not the panacea they may seem, Gretchen Morgenson writes.

IN SUNDAY'S TIMES

Fashion & Style

Once forced into hiding by death threats



Magazine

You can't ruffle Sandra Lee.

The New York Times

Sunday, March 25, 2012 Last Update: 7:05 PM ET

Search

Follow Us   | Subscribe to Home Delivery | New York Cloudy 51°F

WORLD
U.S.
POLITICS
NEW YORK
BUSINESS
DEALBOOK
TECHNOLOGY
SPORTS
SCIENCE
HEALTH
ARTS
STYLE
OPINION

Autos
Blogs
Books
Cartoons
Classifieds
Crosswords
Dining & Wine
Education
Event Guide
Fashion & Style
Home & Garden
Jobs
Movies
Music
Obituaries
Real Estate
Sunday Magazine
T Magazine
Television
Theater

BREAKING NEWS 7:08 PM ET

Before Health Case, Lawyers Train for Legal Marathon

By ADAM LIPTAK 3:58 PM ET
Practice sessions for the lawyers debating President Obama's health care law in Supreme Court arguments this week have stretched the supply of colleagues willing to play the justices.

• Groups Blast Net Supreme Court on Health Care

Post a Comment | Read (45)

In 2008 Crane Collapse, Scrutiny on Supplier of Part

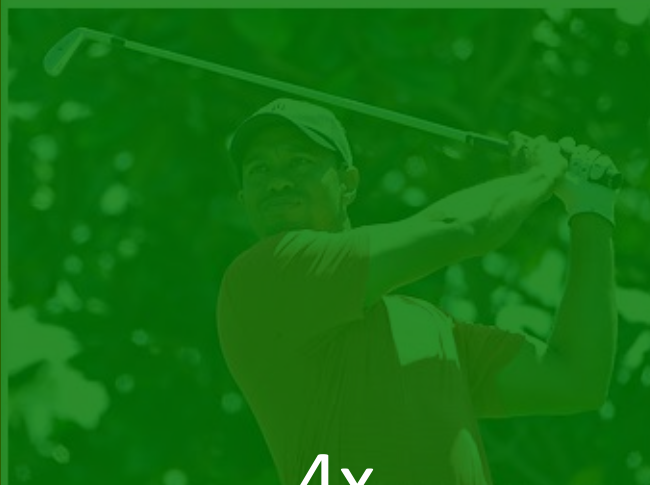
By RUSS BUETTNER
1 minute ago

The company that handled the welding of a crucial component in a crane that killed two workers in Manhattan described itself online in ways that were largely inflated or false.

Post a Comment | Read (3)

In South Korea Visit,

Kansas Beats North Carolina, 80-67, Moving On to N.C.A.A. Final Four



Tiger Woods Is a Winner on Tour Again

By THE ASSOCIATED PRESS 4 minutes ago

Tiger Woods won the Arnold Palmer Invitational, his first PGA Tour victory since a sex scandal at the end of 2009 led to one of the greatest downfalls in sports.



CAMPAIGN 2012

THE LONG RUN

A Kennedy Haunts Romney's Career

By SHERYL GAY STOLBERG

Mitt Romney's complicated relationship with Senator Edward M. Kennedy helped shape his political career and his image.

• Video: Romney and Kennedy's Relationship



SundayReview

A section of opinion and analysis.

CAMPAIGN STOPS

The Outsourced Party

By KEVIN BAKER

Republicans have turned themselves over body and soul to outside interests.



OPINION

The Thrill of Disaster

By BILL CLEGG

Recovery, no matter how exciting, is largely invisible. Ruin is a better story.



Bruni: Rethinking His Religion

Douthat: Tebow in Babylon

Dowd: Oedipus Wrecks

Bedman: Festival of Lies

Kristof: Iran Debate

Editorial: Derivatives

BUSINESS DAY »

FAIR GAME

A Different Bailout

Principal reductions by Fannie Mae and Freddie Mac are not the panacea they may seem, Gretchen Morgenson writes.

IN SUNDAY'S TIMES

Fashion & Style

Once forced into hiding by death threats

Magazine

You can't ruffle Sandra Lee.

The New York Times

Sunday, March 25, 2012 Last Update: 7:05 PM ET

Search

Follow Us   | Subscribe to Home Delivery | New York Cloudy 51°FWORLD
U.S.POLITICS
NEW YORK
BUSINESS
DEALBOOK
TECHNOLOGY
SPORTS
SCIENCE
HEALTH
ARTS
STYLE
OPINIONAutos
Books
Cartoons
Classifieds
Crosswords
Dining & Wine
Education
Event Guide
Fashion & Style
Home & Garden
Jobs
Movies
Music
Obituaries
Real Estate
Sunday Magazine
T Magazine
Television
Theater

BREAKING NEWS 7:08 PM ET

Before Health Case, Lawyers Train for Legal Marathon

By ADAM LIPTAK 3:58 PM ET

Practice sessions for the lawyers debating President Obama's health care law in Supreme Court arguments this week have stretched the supply of colleagues willing to play the justices.

• Groups Blanket Supreme Court on Health Care

 Post a Comment | Read (45)

In 2008 Crane Collapse, Scrutiny on Supplier of Part

By RUSS BUETTNER
1 minute ago

The company that handled the welding of a crucial component in a crane that killed two workers in Manhattan described itself online in ways that were largely inflated or false.

 Post a Comment | Read (3)

In South Korea Visit,

Kansas Beats North Carolina, 80-67, Moving On to N.C.A.A. Final Four



Phelan M. Ebenhack/Associated Press

Tiger Woods Is a Winner on Tour Again

By THE ASSOCIATED PRESS 4 minutes ago

Tiger Woods won the Arnold Palmer Invitational, his first PGA Tour victory since a sex scandal at the end of 2009 led to one of the greatest downfalls in sports.



CAMPAIGN 2012

THE LONG RUN

A Kennedy Haunts Romney's Career

By SHERYL GAY STOLBERG

Mitt Romney's complicated relationship with Senator Edward M. Kennedy helped shape his political career and his image.

•  Video: Romney and Kennedy's Relationship



Sunday Review

A section of opinion and analysis.

CAMPAIGN STOPS

The Outsourced Party

By KEVIN BAKER

Republicans have turned themselves over body and soul to outside interests.



OPINION

The Thrill of Disaster

By BILL CLEGG

Recovery, no matter how exciting, is largely invisible. Ruin is a better story.



Bruni: Rethinking His Religion

Douthat: Tebow in Babylon

Dowd: Oedipus Wrecks

Friedman: Festival of Lies

Kristof: Iran Debate

Editorial: Derivatives

BUSINESS DAY »

FAIR GAME

A Different Bailout

Principal reductions by Fannie Mae and Freddie Mac are not the panacea they may seem, Gretchen Morgenson writes.

IN SUNDAY'S TIMES

Fashion & Style

Once forced into hiding by death threats



Magazine

You can't ruffle Sandra Lee.

Grid \neq boring design



Search

Enter keyword or item #



[Sign In](#)

▼ My Cart **0**

▼ My Favorites **0**

▼ My Registry **0**

[Checkout](#)

Outdoor Living

Furniture
 Dining & Entertaining
 Kitchen & Food
 Decorating & Accessories
 Bed & Bath
 Organizing & Storage
[Easter](#)

Outdoor Collections
 Outdoor Furniture by Type
 Outdoor Accessories

15% off Sectional Sofas

Now through April 1

Excludes frames
by American Leather®

[Shop the Sale >](#)

Wedding & Gift Registry

What's New
 Outlet
 Gift Ideas
 Gift Cards
 Ideas & Inspiration
 The Marimekko Shop
Sale

Outdoor Living

The Crate and Barrel lifestyle lives outdoors with patio furniture and outdoor furniture in modern materials and versatile designs.



The \$15,000 Pick Your Page Sweepstakes

Now through April 4

Crate&Barrel



[Enter Now >](#)





Outdoor Living

Furniture
 Dining & Entertaining
 Kitchen & Food
 Decorating & Accessories
 Bed & Bath
 Organizing & Storage
[Easter](#)



Outdoor Collections
 Outdoor Furniture by Type
 Outdoor Accessories

15% off Sectional Sofas

Now through April 1

Excludes frames
by American Leather®

Shop the Sale >

Wedding & Gift Registry

What's New
 Outlet
 Gift Ideas
 Gift Cards
 Ideas & Inspiration
 The Marimekko Shop
Sale

Outdoor Living

The Crate and Barrel lifestyle lives outdoors with patio furniture and outdoor furniture in modern materials and versatile designs.



The \$15,000 Pick Your Page Sweepstakes

Now through April 4

Crate&Barrel



Enter Now >

Alignment matters

[stories](#)
[recent](#)
[popular](#)
[ask slashdot](#)
[book reviews](#)
[games](#)
[idle](#)
[yro](#)
[cloud](#)
[hardware](#)
[linux](#)
[management](#)
[mobile](#)
[science](#)
[security](#)
[storage](#)

Follow Slashdot stories on [Twitter](#)

SKA Telescope Site Debate Not Over Yet

Posted by **timothy** on Sunday March 25, @07:05PM
from the where's-that-stupid-fat-lady dept.



[angry tapir](#) writes

"Although [earlier reports](#) claimed that a scientific panel recommended South Africa over Australia as the best site for the proposed Square Kilometre Array, the [SKA board of directors is still debating](#) which country will host the enormous US\$2.1-billion radio telescope. The scientific panel only recommended South Africa [by a narrow margin](#) earlier this month."

Read the **1** comment

[politics](#) [science](#) [space](#)

James Cameron Begins His Deep-Sea Dive

Posted by **timothy** on Sunday March 25, @05:55PM
from the ok-you're-jealous-and-so-am-I dept.



James Cameron is [on his way down](#). The director's [long-planned trip](#) to the deepest spot on Earth — the Mariana Trench's [Challenger Deep](#) — is in progress; by the time you read this, if all goes well, Cameron will be navigating around in depths unvisited since 1960. [National Geographic's coverage](#) of the dive is excellent as well, as is [the BBC's \(with video\)](#).

Read the **48** comments

[science](#) [cameron](#) [earth](#)

You're Driving All Wrong, Says NHTSA

Posted by **timothy** on Sunday March 25, @04:57PM
from the but-officer-my-hands-are-on-the-wheel dept.



[antdude](#) writes

"This [MSNBC Bottom Line story/article](#) says that 'If you're a conscientious motorist who still does everything the way your driver's-ed instructor told you

Follow us:



Slashdot Poll

What is your most productive time of day?

- ☐ 12AM - 4AM
- ☐ 4AM - 8AM
- ☐ 8AM - 12PM
- ☐ 12PM - 4PM
- ☐ 4PM - 8PM
- ☐ 8PM - 12AM
- ☐ No particular time
- ☐ Whenever my internet connection dies

[Vote](#)

Read the **175** comments
Voted on **30676** times.

Most Discussed

374 [NHTSA Suggestion Would Cripple In-Car GPS Displays](#)

340 [Windows 8 and Screen Resolution: WXGA Still Most Popular](#)

319 [Congress Wants Your TSA Stories](#)

301 [US Puts Tariff On Chinese Solar Panels](#)

[stories](#)
[recent](#)
[popular](#)
[ask slashdot](#)
[book reviews](#)
[games](#)
[idle](#)
[yro](#)
[cloud](#)
[hardware](#)
[linux](#)
[management](#)
[mobile](#)
[science](#)
[security](#)
[storage](#)

Follow Slashdot stories on [Twitter](#)

SKA Telescope Site Debate Not Over Yet

Posted by **timothy** on Sunday March 25, @07:05PM
from the where's-that-stupid-fat-lady dept.



[angry tapir](#) writes

"Although [earlier reports](#) claimed that a scientific panel recommended South Africa over Australia as the best site for the proposed Square Kilometre Array, the [SKA board of directors is still debating](#) which country will host the enormous US\$2.1-billion radio telescope. The scientific panel only recommended South Africa [by a narrow margin](#) earlier this month."

Read the **1** comment



[politics](#) [science](#) [space](#)

James Cameron Begins His Deep-Sea Dive

Posted by **timothy** on Sunday March 25, @05:55PM
from the x-you're-jealous-and-so-am-i dept.



James Cameron is [on his way down](#). The director's [long-planned trip](#) to the deepest spot on Earth — the Mariana Trench's [Challenger Deep](#) — is in progress; by the time you read this, if all goes well, Cameron will be navigating around in depths unvisited since 1960. [National Geographic's coverage](#) of the dive is excellent as well, as is [the BBC's \(with video\)](#).

Read the **48** comments



[science](#) [cameron](#) [earth](#)

You're Driving All Wrong, Says NHTSA

Posted by **timothy** on Sunday March 25, @04:57PM
from the but-officer-my-hands-are-on-the-wheel dept.



[antdude](#) writes

"This [MSNBC Bottom Line story/article](#) says that 'If you're a conscientious motorist who still does everything the way your driver's-ed instructor told you

Follow us:



Slashdot Poll

What is your most productive time of day?

- ☐ 12AM - 4AM
- ☐ 4AM - 8AM
- ☐ 8AM - 12PM
- ☐ 12PM - 4PM
- ☐ 4PM - 8PM
- ☐ 8PM - 12AM
- ☐ No particular time
- ☐ Whenever my internet connection dies

[Vote](#)

Read the **175** comments

Voted on **30676** times.

Most Discussed

374 [NHTSA Suggestion Would Cripple In-Car GPS Displays](#)

340 [Windows 8 and Screen Resolution: WXGA Still Most Popular](#)

319 [Congress Wants Your TSA Stories](#)

301 [US Puts Tariff On Chinese Solar Panels](#)

[stories](#)
[recent](#)
[popular](#)
[ask slashdot](#)
[book reviews](#)
[games](#)
[idle](#)
[yro](#)
[cloud](#)
[hardware](#)
[linux](#)
[management](#)
[mobile](#)
[science](#)
[security](#)
[storage](#)

Follow Slashdot stories on [Twitter](#)

SKA Telescope Site Debate Not Over Yet

Posted by **timothy** on Sunday March 25, @07:05PM
from the where's-that-stupid-fat-lady dept.



[angry tapir](#) writes

"Although [earlier reports](#) claimed that a scientific panel recommended South Africa over Australia as the best site for the proposed Square Kilometre Array, the [SKA board of directors is still debating](#) which country will host the enormous US\$2.1-billion radio telescope. The scientific panel only recommended South Africa [by a narrow margin](#) earlier this month."

Read the **1** comment

[politics](#) [science](#) [space](#)

James Cameron Begins His Deep-Sea Dive

Posted by **timothy** on Sunday March 25, @05:55PM
from the ok-you're-jealous-and-so-am-I dept.



James Cameron is [on his way down](#). The director's [long-planned trip](#) to the deepest spot on Earth — the Mariana Trench's [Challenger Deep](#) — is in progress; by the time you read this, if all goes well, Cameron will be navigating around in depths unvisited since 1960. [National Geographic's coverage](#) of the dive is excellent as well, as is [the BBC's \(with video\)](#).

Read the **48** comments

[science](#) [cameron](#) [earth](#)

You're Driving All Wrong, Says NHTSA

Posted by **timothy** on Sunday March 25, @04:57PM
from the but-officer-my-hands-are-on-the-wheel dept.



[antdude](#) writes

"This [MSNBC Bottom Line story/article](#) says that 'If you're a conscientious

Follow us:



Slashdot Poll

What is your most productive time of day?

- ☐ 12AM - 4AM
- ☐ 4AM - 8AM
- ☐ 8AM - 12PM
- ☐ 12PM - 4PM
- ☐ 4PM - 8PM
- ☐ 8PM - 12AM
- ☐ No particular time
- ☐ Whenever my internet connection dies

[Vote](#)

Read the **175** comments
Voted on **30676** times.

Most Discussed

374 [NHTSA Suggestion Would Cripple In-Car GPS Displays](#)

340 [Windows 8 and Screen Resolution: WXGA Still Most Popular](#)

319 [Congress Wants Your TSA Stories](#)

301 [US Puts Tariff On Chinese Solar Panels](#)

[stories](#)

Follow Slashdot stories on [Twitter](#)
[recent](#)
[popular](#)
[ask slashdot](#)
[book reviews](#)
[games](#)
[idle](#)
[yro](#)
[cloud](#)
[hardware](#)
[linux](#)
[management](#)
[mobile](#)
[science](#)
[security](#)
[storage](#)

SKA Telescope Site Debate Not Over Yet

Posted by **timothy** on Sunday March 25, @07:05PM
from the where's-that-stupid-fat-lady dept.



[angry tapir](#) writes

"Although [earlier reports](#) claimed that a scientific panel recommended South Africa over Australia as the best site for the proposed Square Kilometre Array, the [SKA board of directors is still debating](#) which country will host the enormous US\$2.1-billion radio telescope. The scientific panel only recommended South Africa [by a narrow margin](#) earlier this month."

Read the **1** comment

[politics](#) [science](#) [space](#) »

James Cameron Begins His Deep-Sea Dive

Posted by **timothy** on Sunday March 25, @05:55PM
from the ok-you're-jealous-and-so-am-I dept.



James Cameron is [on his way down](#). The director's [long-planned trip](#) to the deepest spot on Earth — the Mariana Trench's [Challenger Deep](#) — is in progress; by the time you read this, if all goes well, Cameron will be navigating around in depths unvisited since 1960. [National Geographic's coverage](#) of the dive is excellent as well, as is [the BBC's \(with video\)](#).

Read the **48** comments

[science](#) [cameron](#) [earth](#) »

You're Driving All Wrong, Says NHTSA

Posted by **timothy** on Sunday March 25, @04:57PM
from the but-officer-my-hands-are-on-the-wheel dept.



[antdude](#) writes

"This [MSNBC Bottom Line story/article](#) says that 'If you're a conscientious

Slashdot Poll

What is your most productive time of day?

- ☐ 12AM - 4AM
- ☐ 4AM - 8AM
- ☐ 8AM - 12PM
- ☐ 12PM - 4PM
- ☐ 4PM - 8PM
- ☐ 8PM - 12AM
- ☐ No particular time
- ☐ Whenever my internet connection dies

[Vote](#)

Read the **175** comments
Voted on **30676** times.

Most Discussed

- 374** [NHTSA Suggestion Would Cripple In-Car GPS Displays](#)
- 340** [Windows 8 and Screen Resolution: WXGA Still Most Popular](#)
- 319** [Congress Wants Your TSA Stories](#)
- 301** [US Puts Tariff On Chinese Solar Panels](#)

Activity: Grid-based design

- Class search results page – how can we present class search results in a way that makes it easier to find the right courses?
- Create a typographic grid that makes it easy to skim class results
- For now, focus on the layout of the results (rather than radically changing the content)

Search for Classes

Search Results

CU Boulder | Spring 2014

The following classes match your search criteria Course Subject: **Computer Science**, Show Open Classes Only: **No**, Campus: **Boulder Main Campus**

NOTE: If you enroll for both Main Campus and Continuing Education / Extended Studies classes in the same term, your Continuing Education / Extended Studies tuition is separate from any Main Campus tuition and may be billed separately. Continuing Education / Extended Studies class(es) are NOT eligible for the COF stipend.

COLLAPSE ALL

EXPAND ALL

NEW SEARCH

MODIFY SEARCH



Open



Closed



Closed Wait List Available



Schedule Conflict



Error

- ▶ **CSCI 1300 - Computer Science 1: Programming**
- ▶ **CSCI 2270 - Computer Science 2: Data Structures**
- ▶ **CSCI 2400 - Computer Systems**
- ▶ **CSCI 2824 - Discrete Structures**
- ▶ **CSCI 2900 - Lower Division, Undergraduate Level Independent Study**
- ▼ **CSCI 3002 - Human-Centered Computing Foundations**

Class	Section	Days & Times	Room	Instructor	Meeting Dates	Status
26878	002-LEC Boulder Main Campus Semester	MoWe 4:00PM - 5:15PM	ITLL 1B50	Clayton Lewis	01/13/2014 - 05/02/2014	

Units	Enrollment Restriction	Consent Required	Available Seats	Wait List Total
3	Y	N	1	0

- ▶ **CSCI 3104 - Algorithms**
- ▶ **CSCI 3112 - Human-Centered Computing Professional Development**

Next time

- Paper prototyping your project