

Data Visualisation and Dashboarding

Week 4 – Colours and Typography

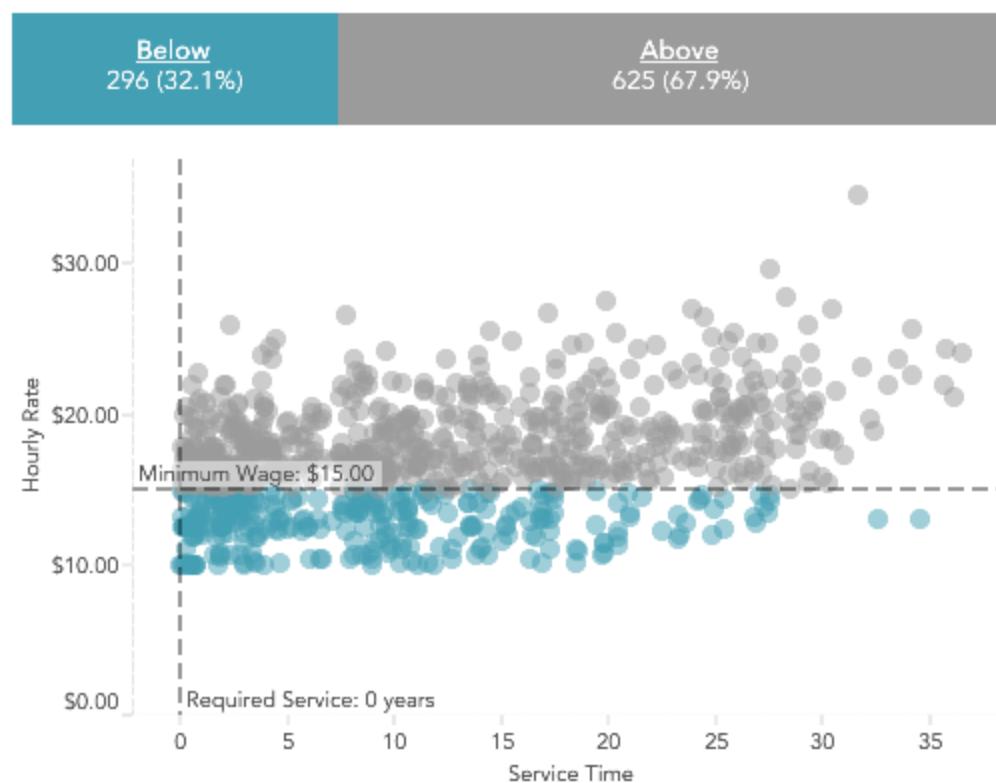
UNIVERSITY OF
WESTMINSTER



What-If Analysis: Impact of Minimum Wage

Proposed Minimum Wage Required Service

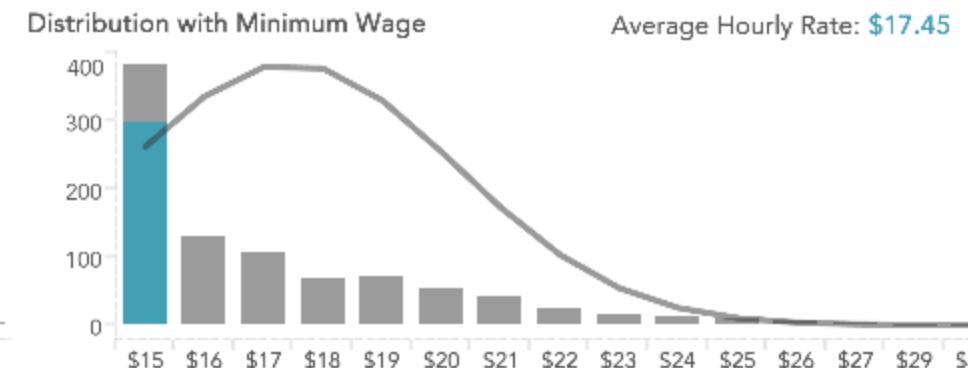
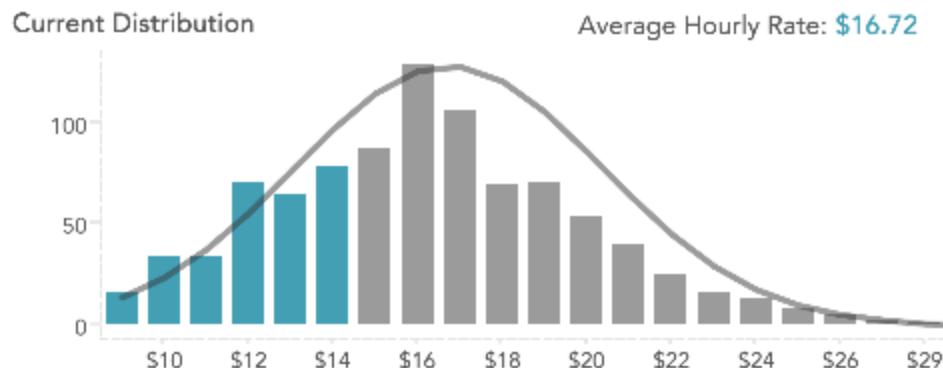
\$15.00	0
<input type="button" value="<"/>	<input type="button" value=">"/>
<input type="button" value="<"/>	<input type="button" value=">"/>



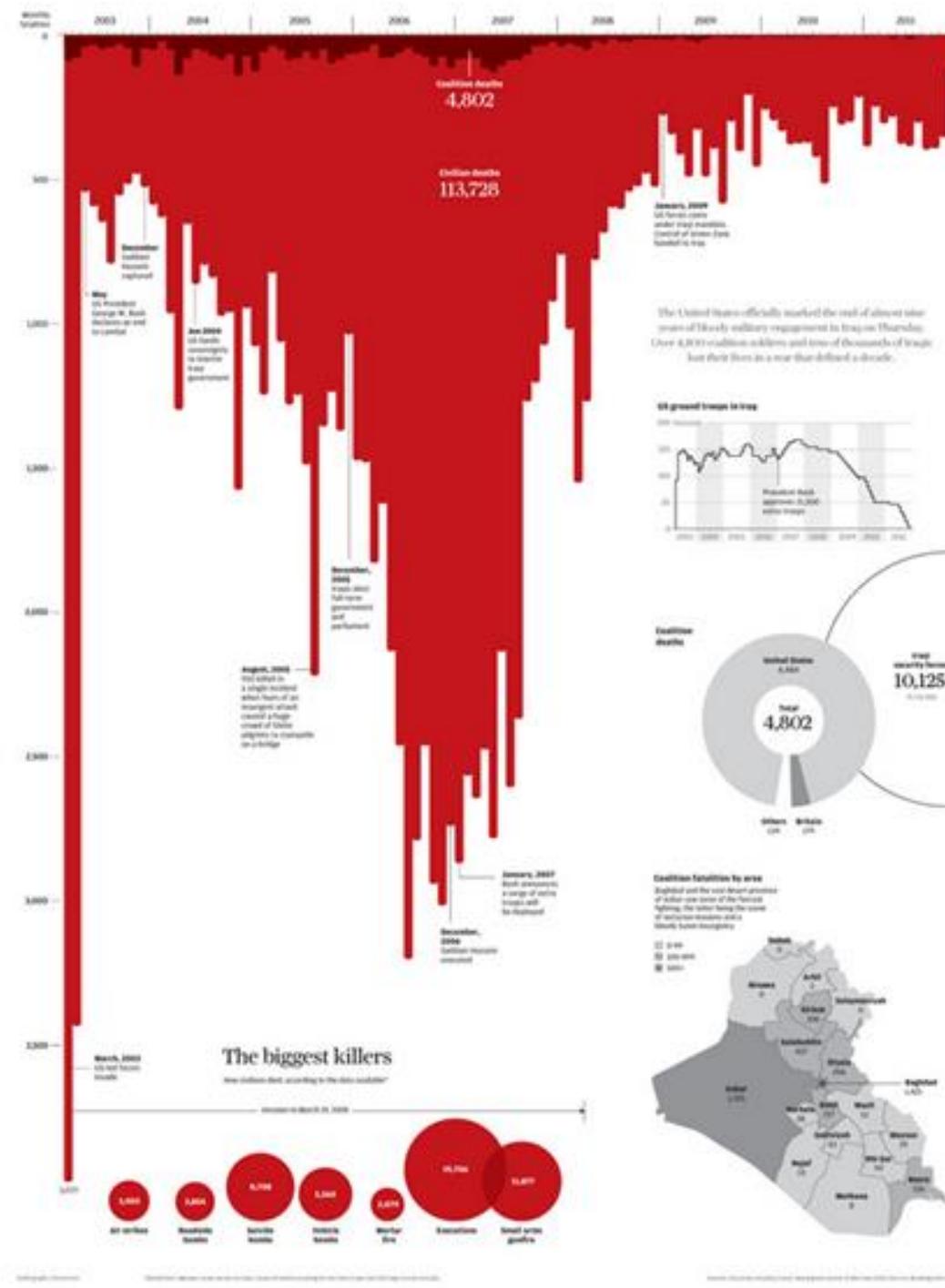
Dollar Impact of
Minimum Wage:
\$1,788,805

Employees Below
Minimum Wage:
296

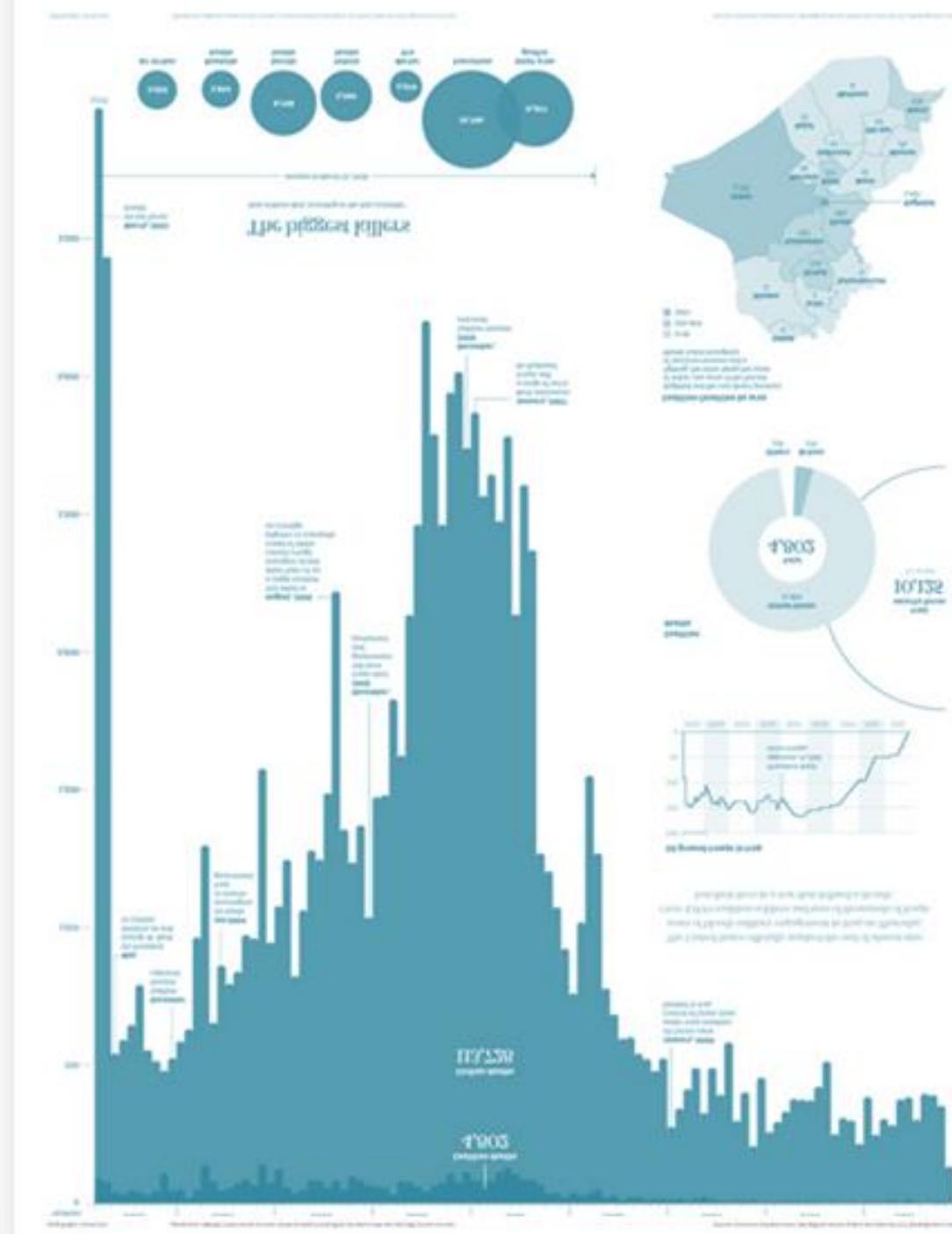
Services	\$812,378	131
Facilities	\$730,562	93
Marketing	\$84,479	23
Logistics	\$50,630	15
Supply Chain	\$37,987	13
Legal	\$27,191	4
Operations	\$12,265	3
Customer Service	\$10,923	4
Information Technology	\$8,760	3
Human Resources	\$7,539	4
Purchasing	\$4,272	1
Research & Development	\$1,818	2



Iraq's bloody toll



Iraq: Deaths on the Decline



What meaning does color bring to the presentation?

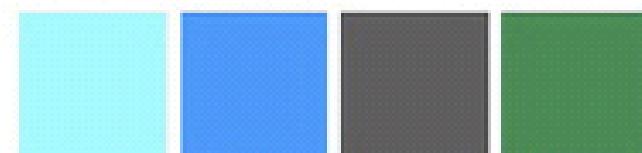
Earths tones

Gentle browns, blues. Calming, sinks into the page



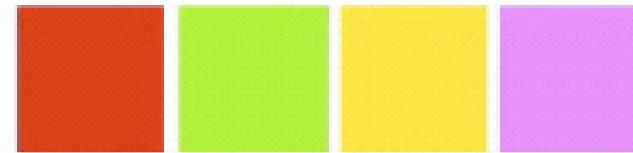
Cool

Soothing, restful, calm



Unnatural colors

Alarming, unnerving, draws attention.



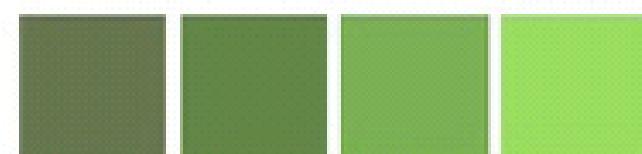
Warm

Optimistic, active, vivid



Increasing color intensity

Increasing saturation and brightness draws the eye and means the point is more important



The Use of Colour in Data Visualisation

SEQUENTIAL

color is ordered from low to high



DIVERGING

two sequential colors with a neutral midpoint



CATEGORICAL

contrasting colors for individual comparison



HIGHLIGHT

color used to highlight something



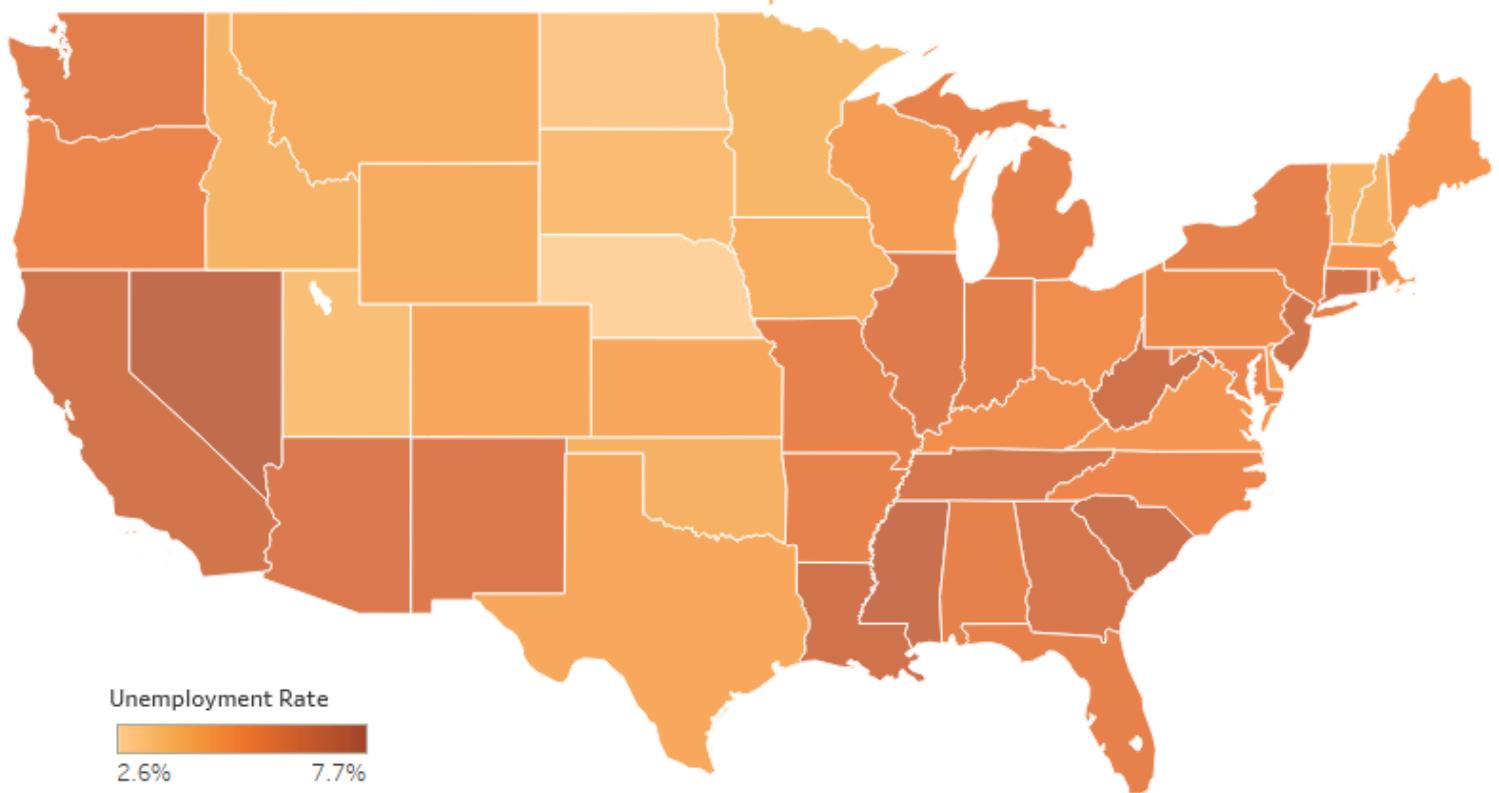
ALERT

color used to get reader's attention



Sequential Color

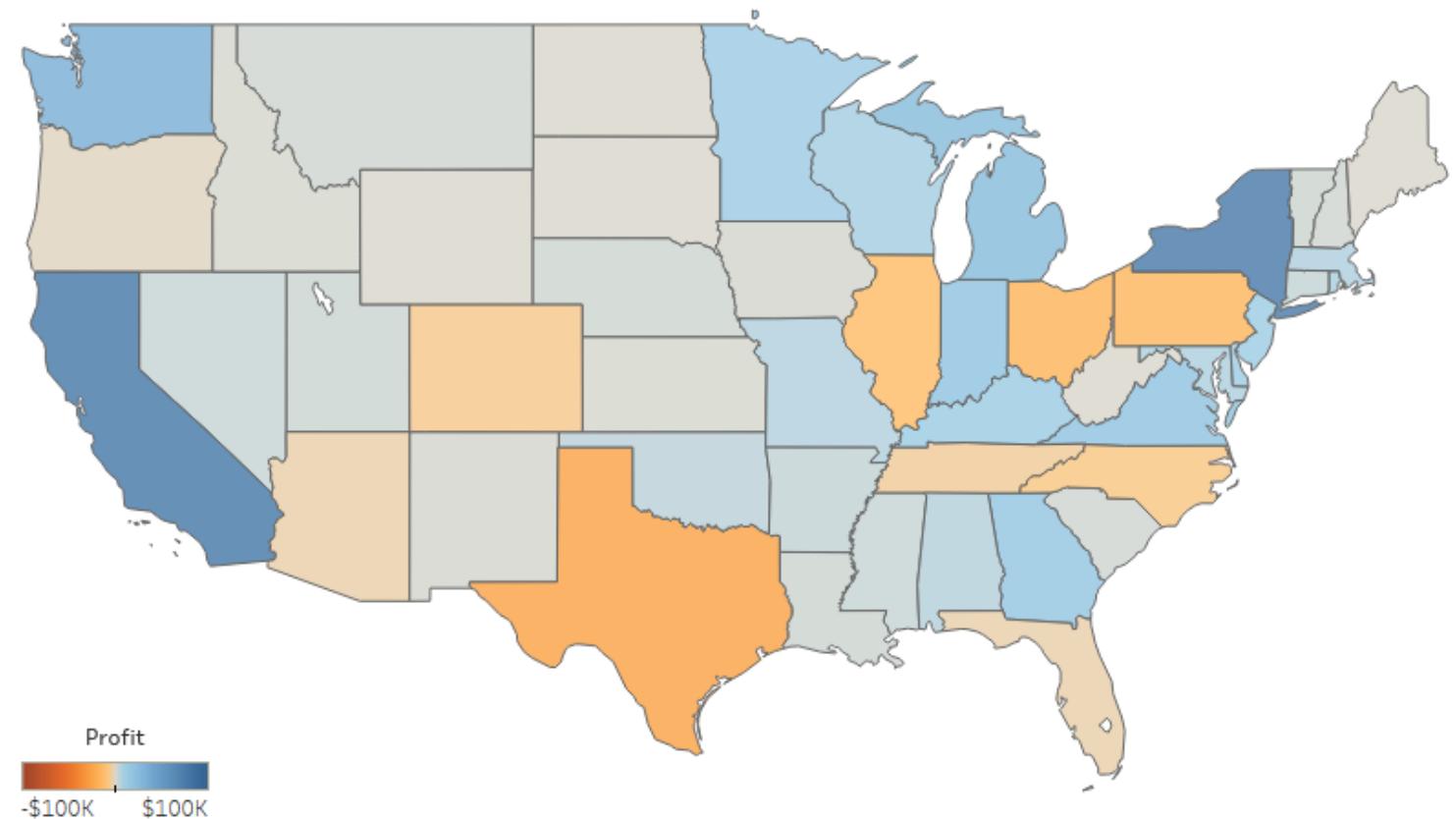
Unemployment Rate by State



Source: The Big Book of Dashboards (Figure 1.17)

Diverging Color

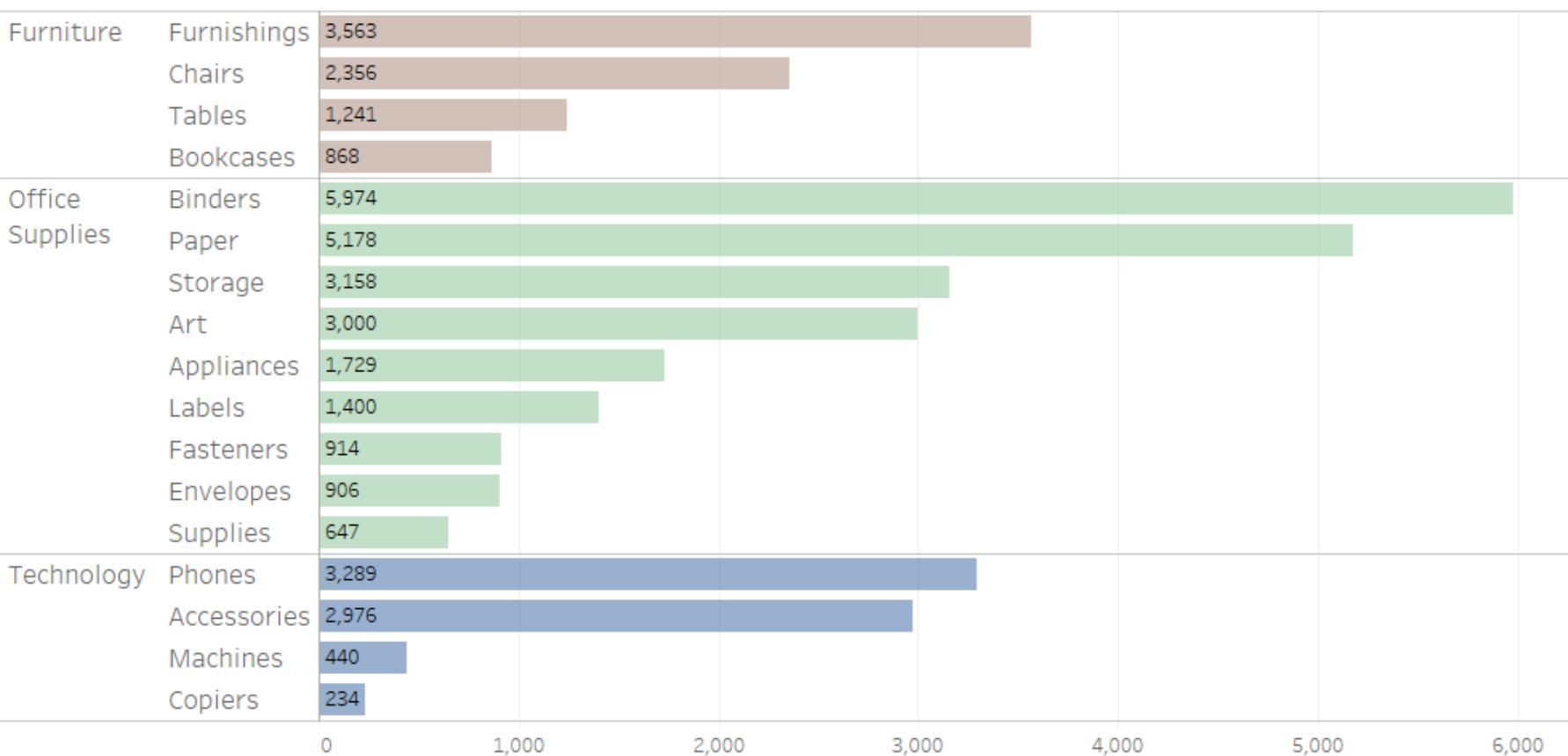
Profit by State



Source: The Big Book of Dashboards (Figure 1.19)

Categorical Color

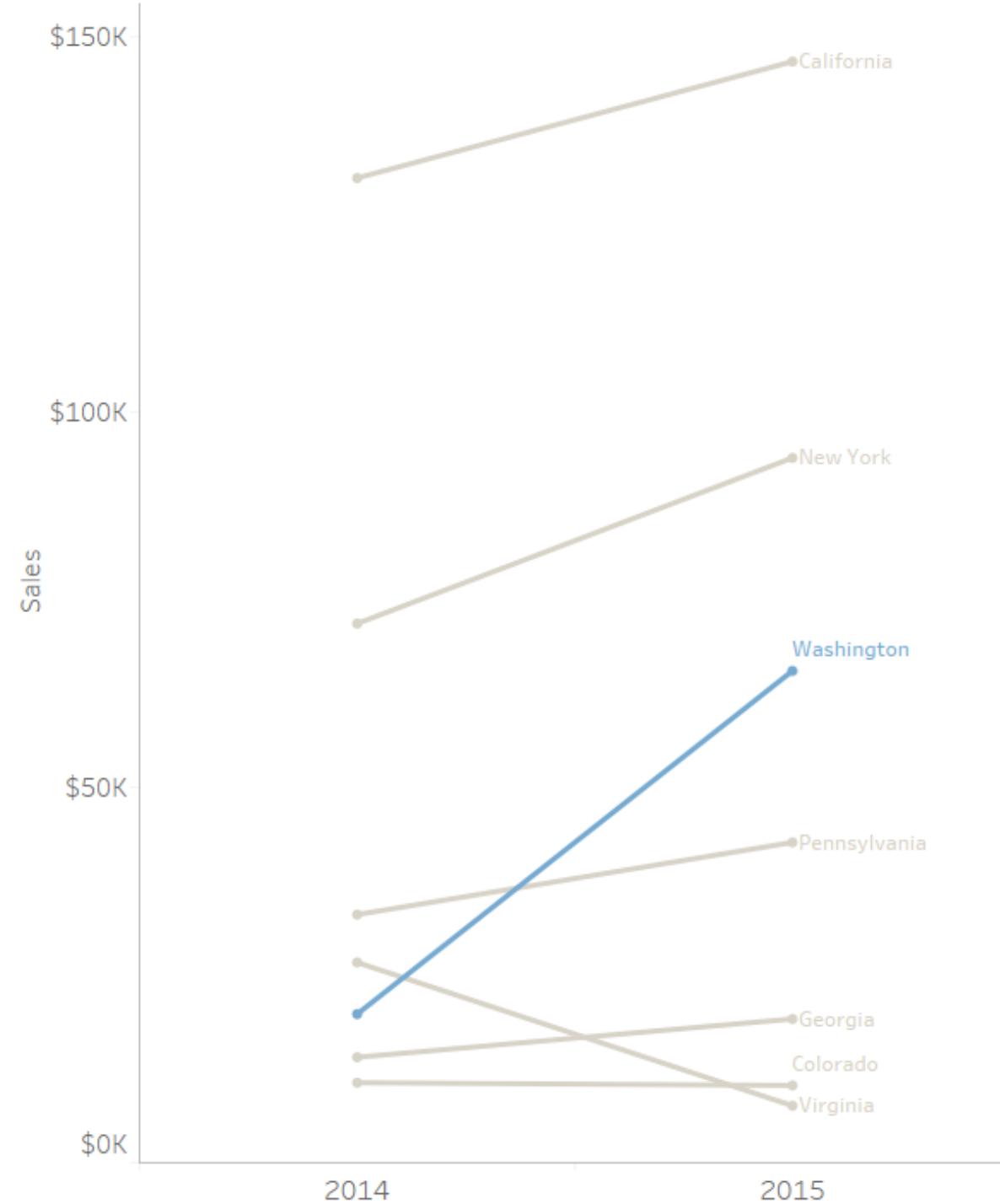
Quantity by Category and Subcategory



Source: The Big Book of Dashboards (Figure 1.20)

Highlight Color

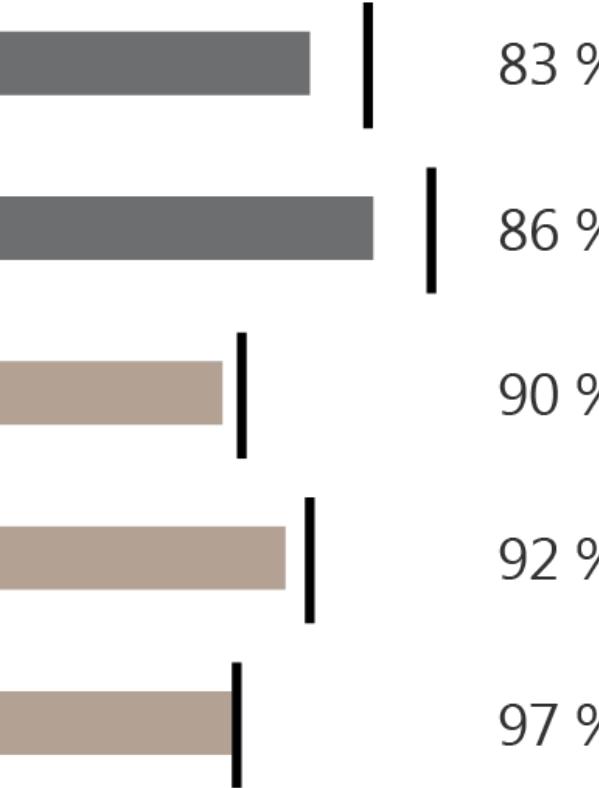
Sales by State, 2014-2015



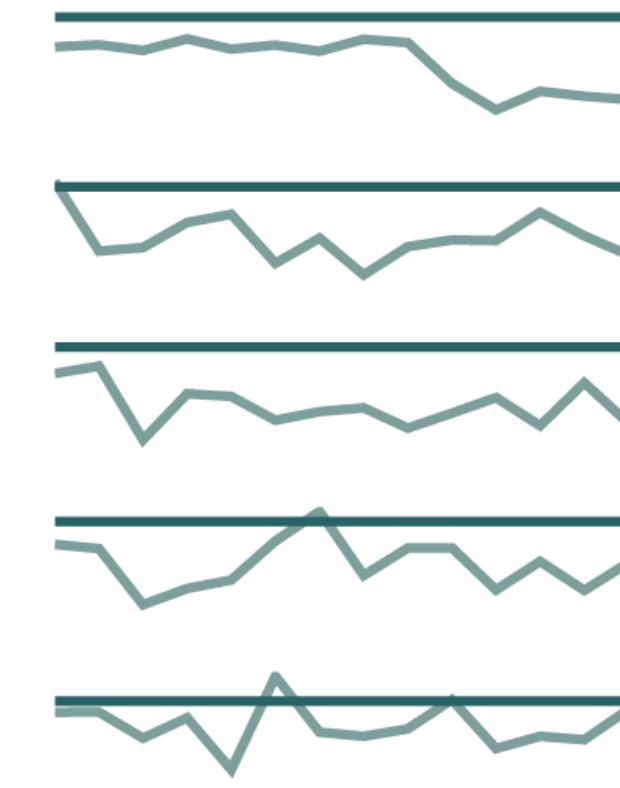
Source: The Big Book of Dashboards (Figure 1.21)

Alerting Color

ACTUAL VS. EXPECTED



14-DAY TREND



LAST INSPECTION

3 days

19 days



2 days

7 days

13 days



Source: The Big Book of Dashboards (Figure 1.22)

Too much colour!

Short-term Memory = “small chunks of information”

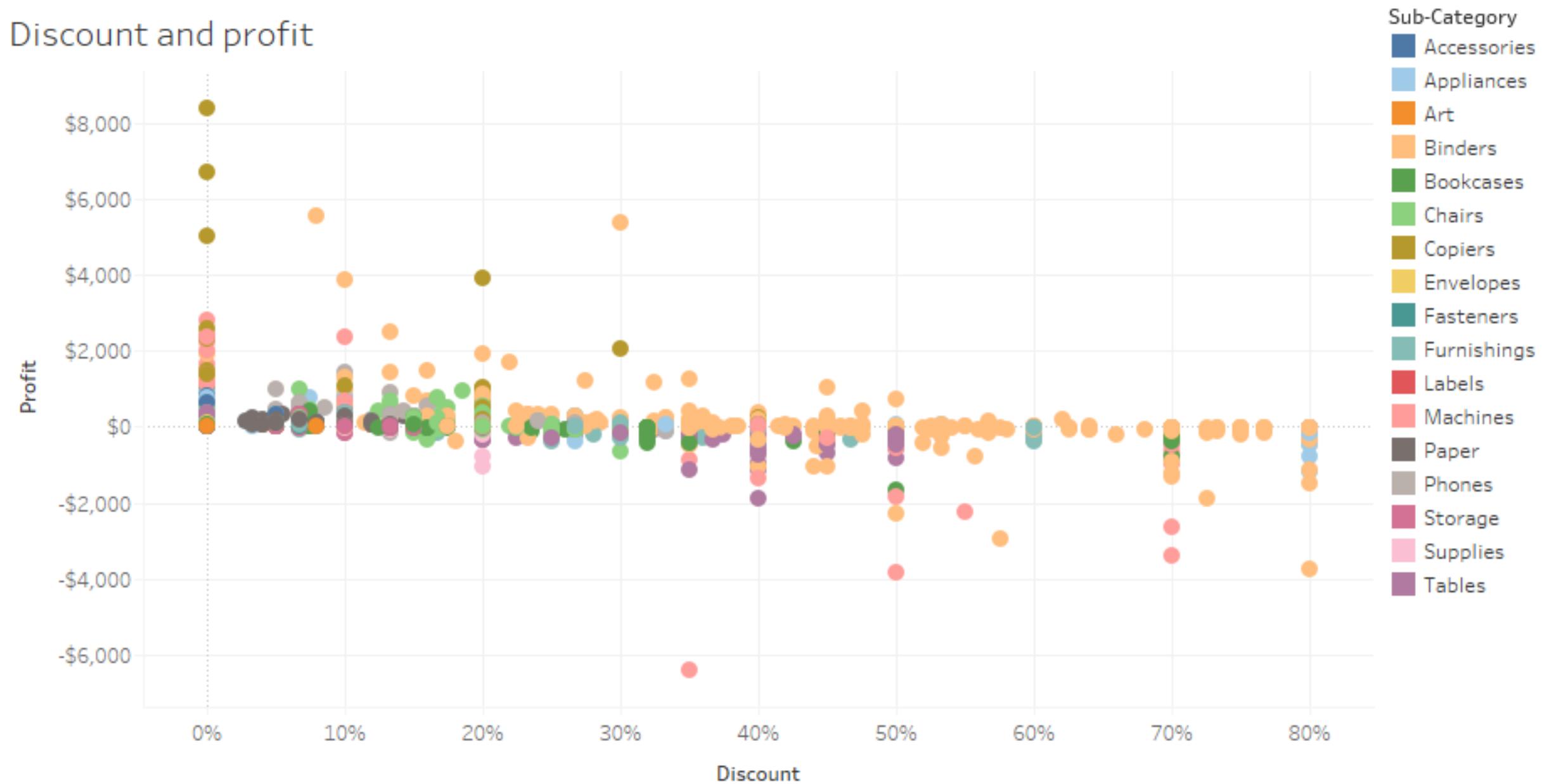
Requires reusing the same or similar color

Requires frequent reference to the legend



Too much colour!

Discount and profit



Colour Vision Deficiency (a.k.a. colour blindness)



Color
Normal

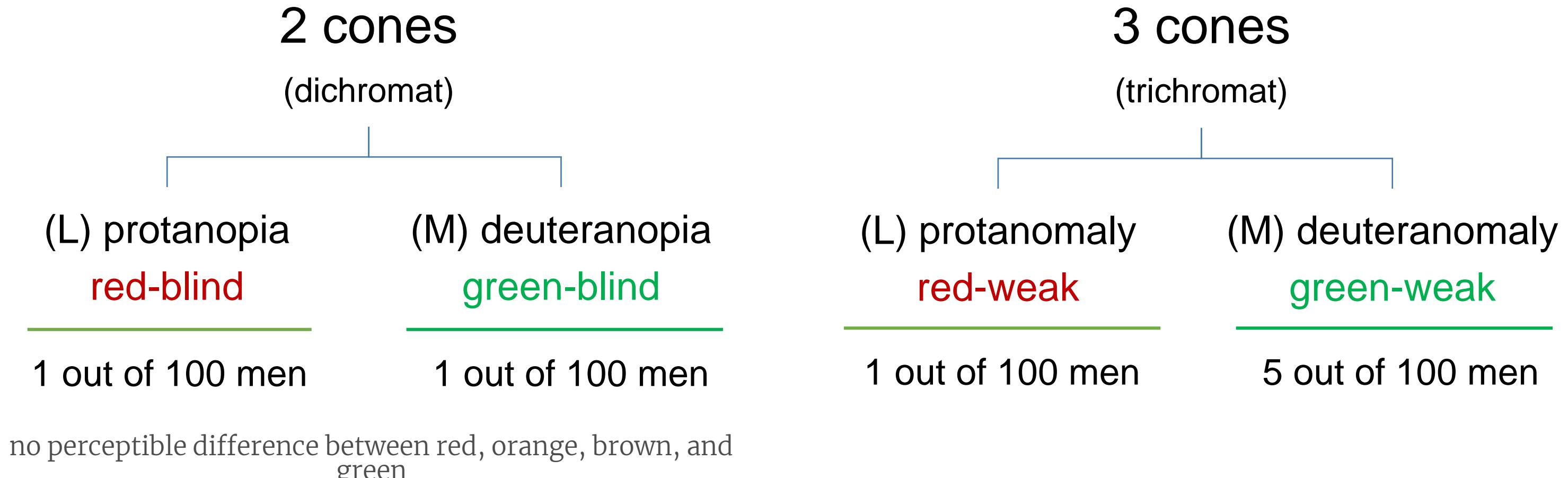
Color
Vision
Deficiency

The Eye with Normal Color Vision

Three types of color sensitive cones

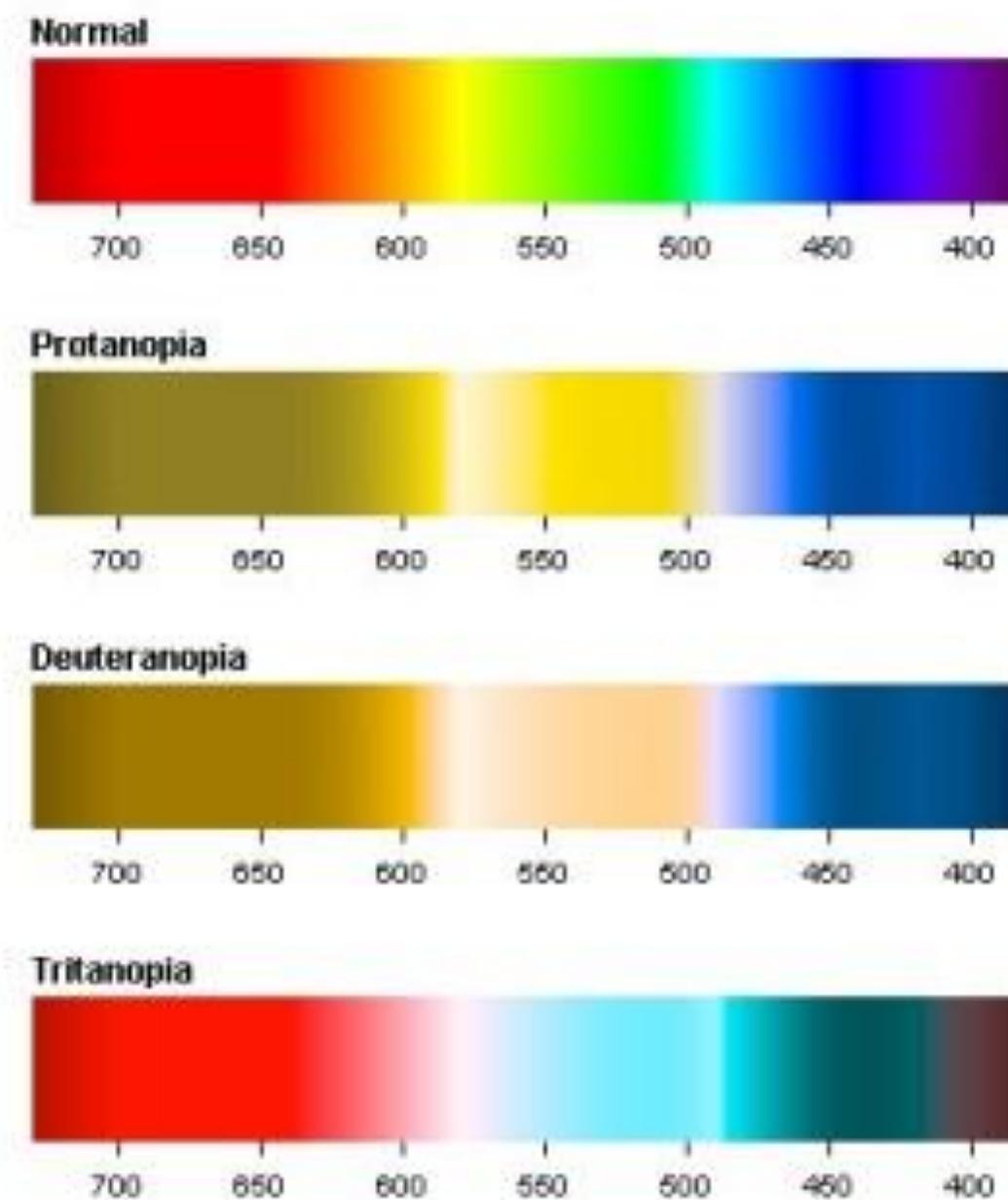
1. Short (S) – respond to short wave lengths
2. Medium (M) - respond to medium wave lengths
 - more sensitive to green colors
3. Long (L) - respond to long wave lengths
 - more sensitive to red colors

Color Vision Deficiency



= approximately **8% of men** have color vision deficiency

How Color is Perceived by Someone with CVD

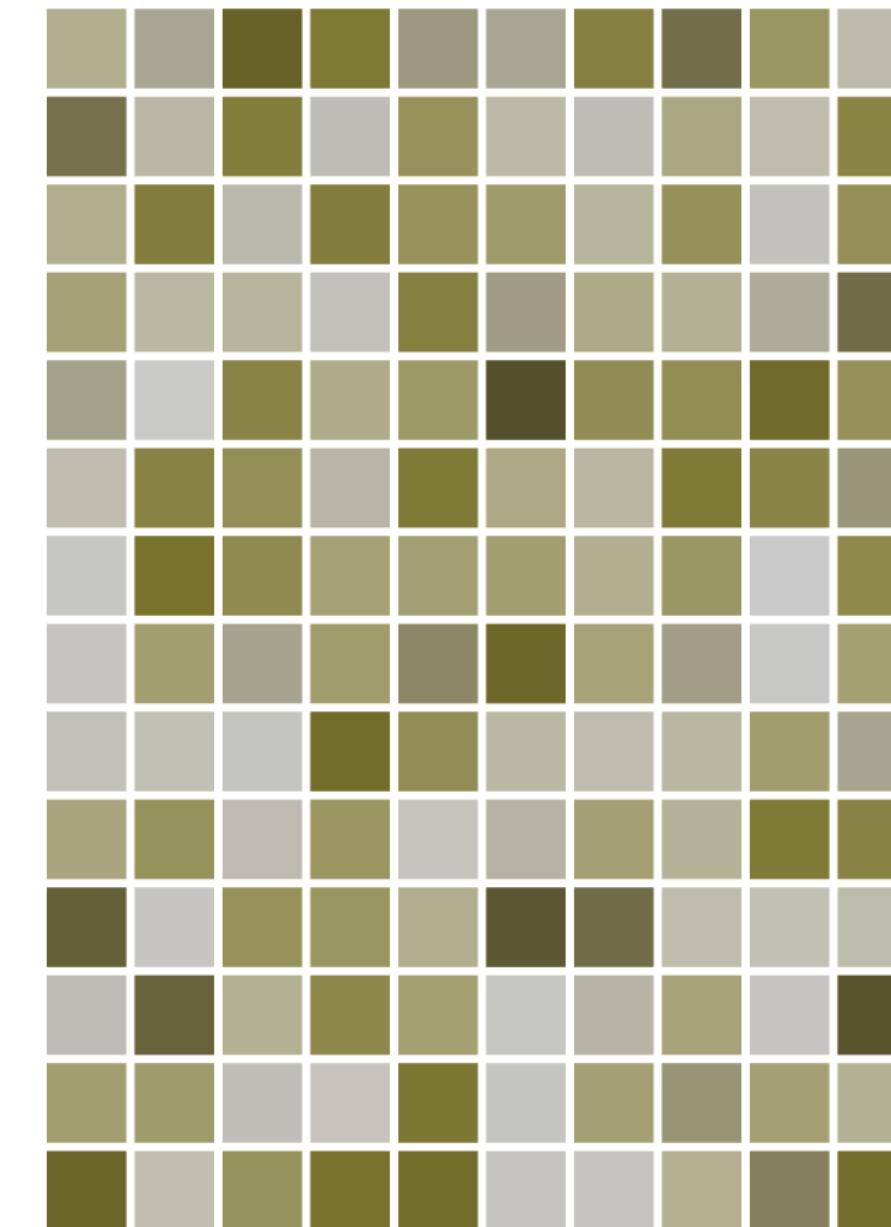


Source: www.colblindor.com

Traffic Light Colors

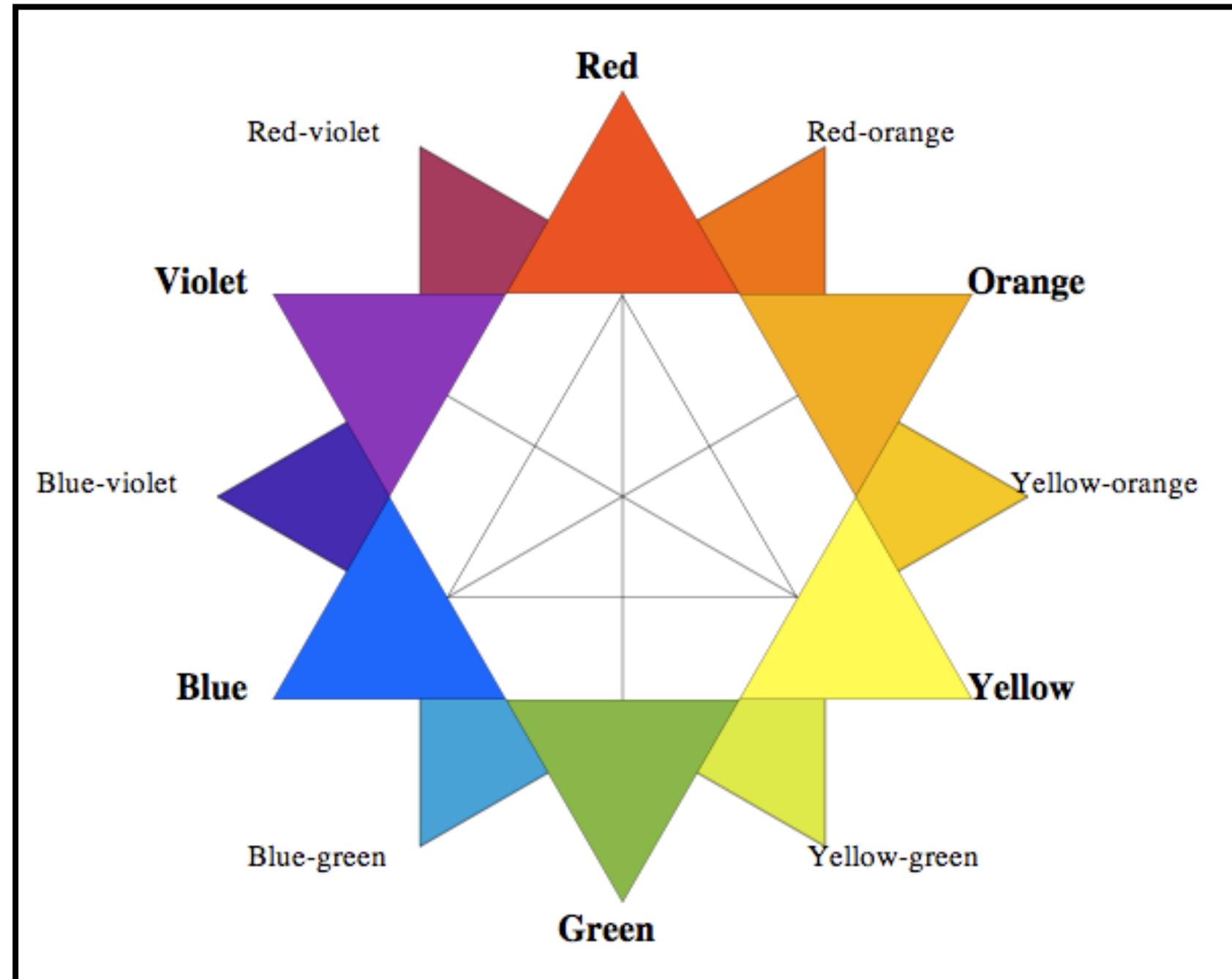


Deutanopia Simulation



Source: *The Big Book of Dashboards* (Figure 33.3)

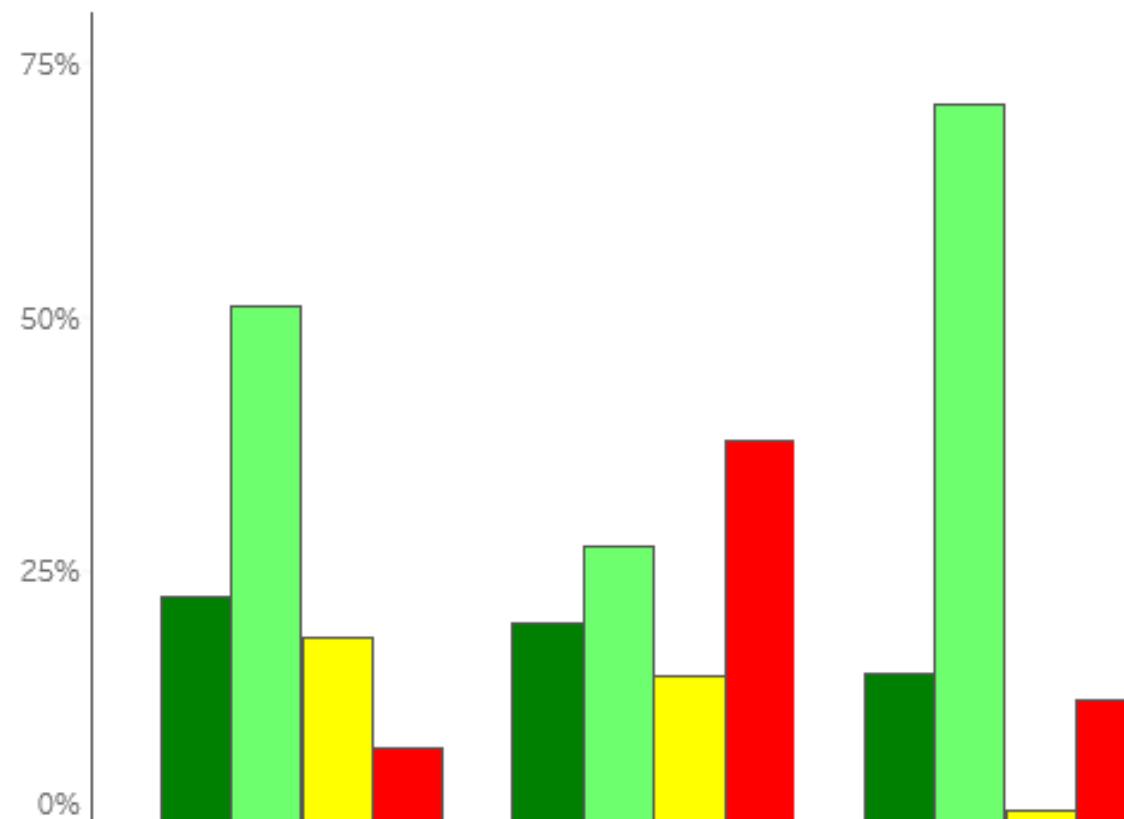
Color



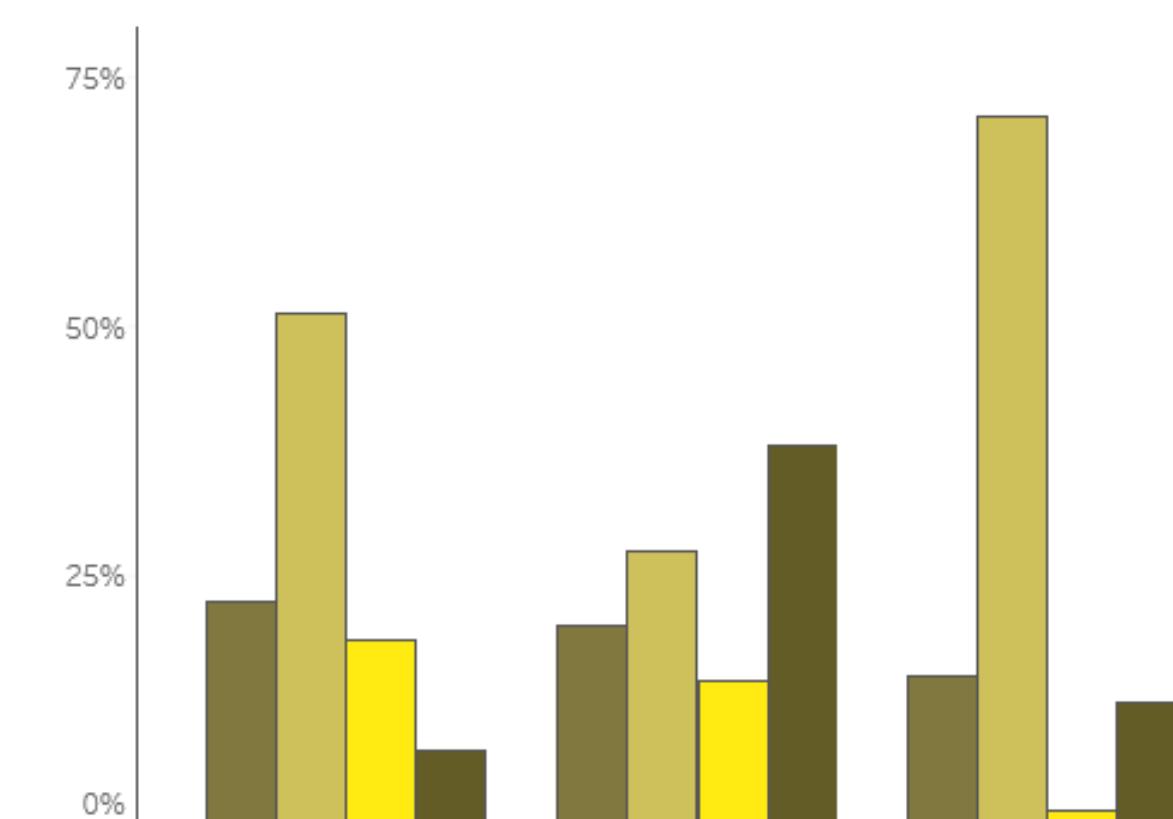
VisCheck

www.vischeck.com

Traffic Light Colors

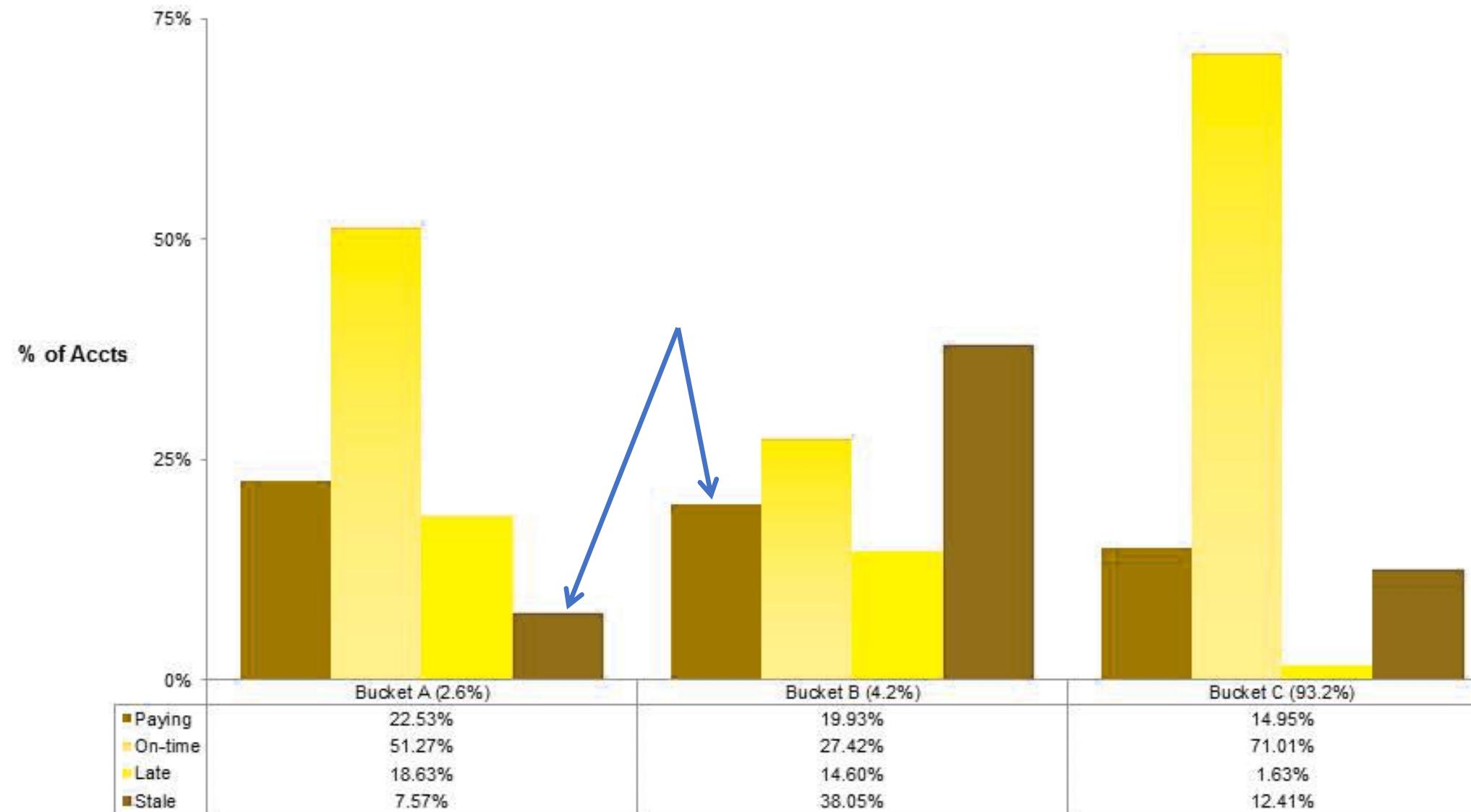


Protanopia Simulation



Source: *The Big Book of Dashboards* (Figure 1.24)

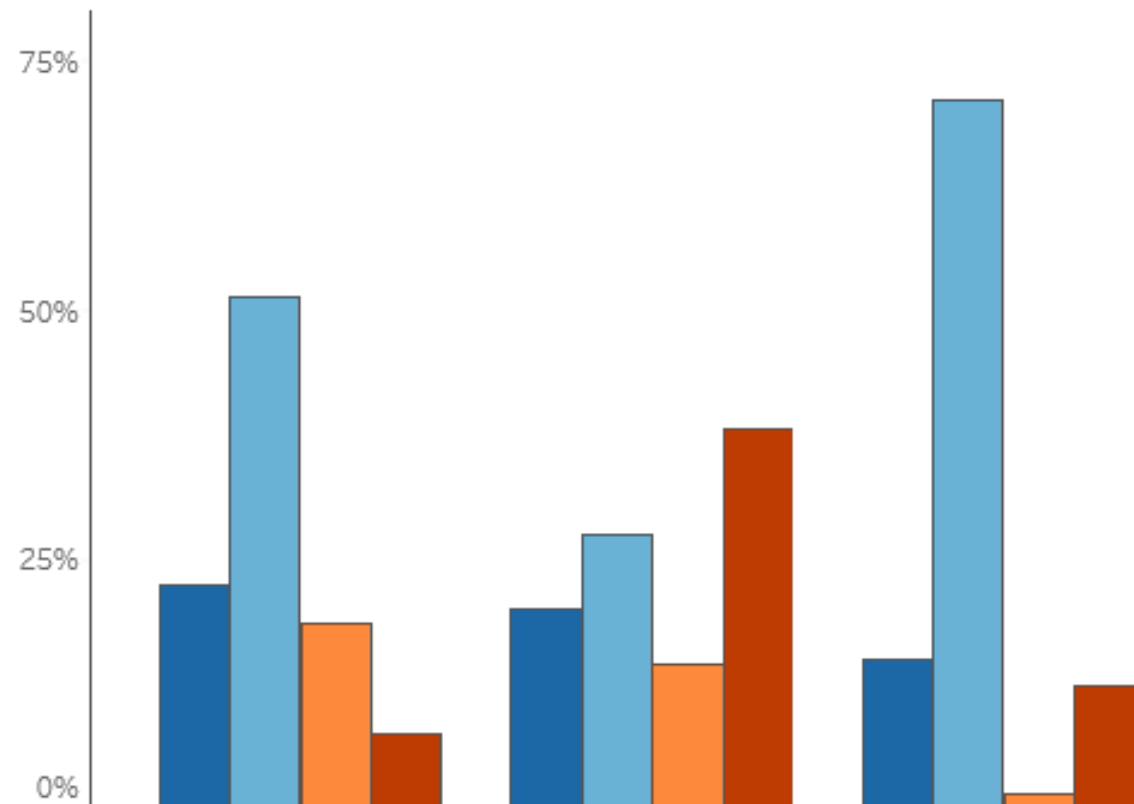
Protanope Simulation



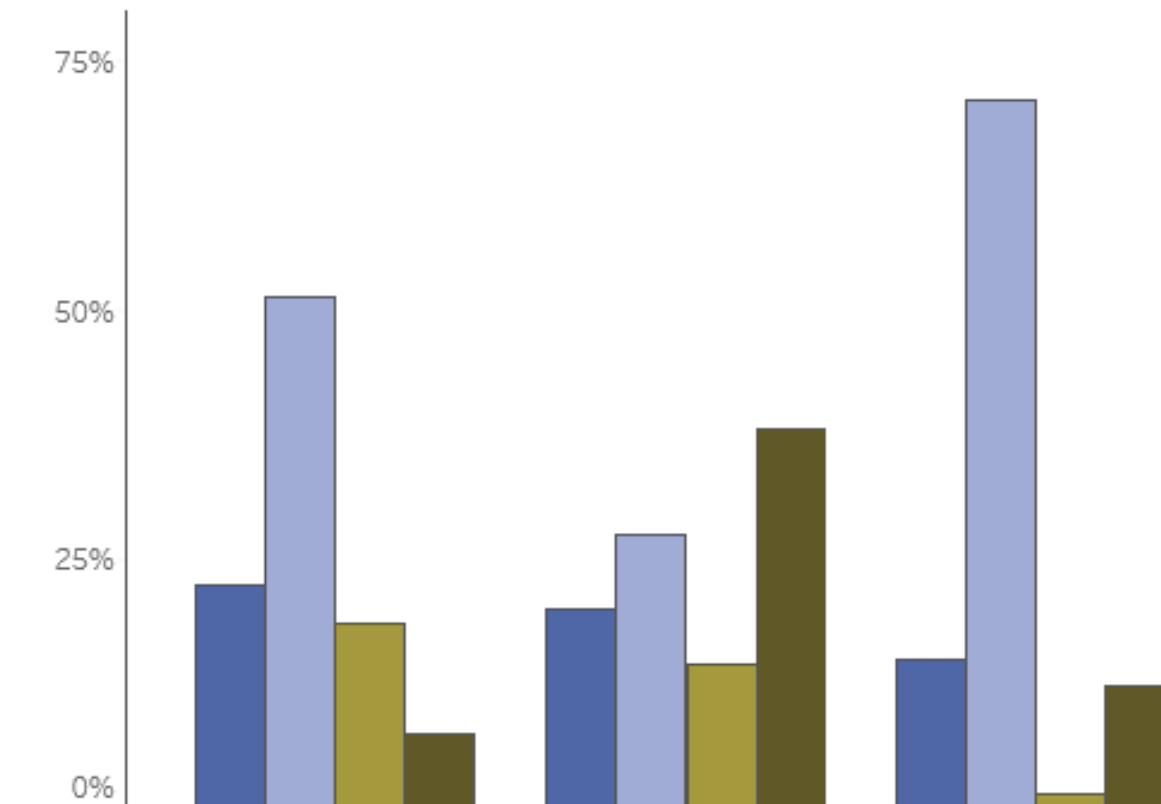
VisCheck

www.vischeck.com

Colorblind-Friendly Blue and Orange

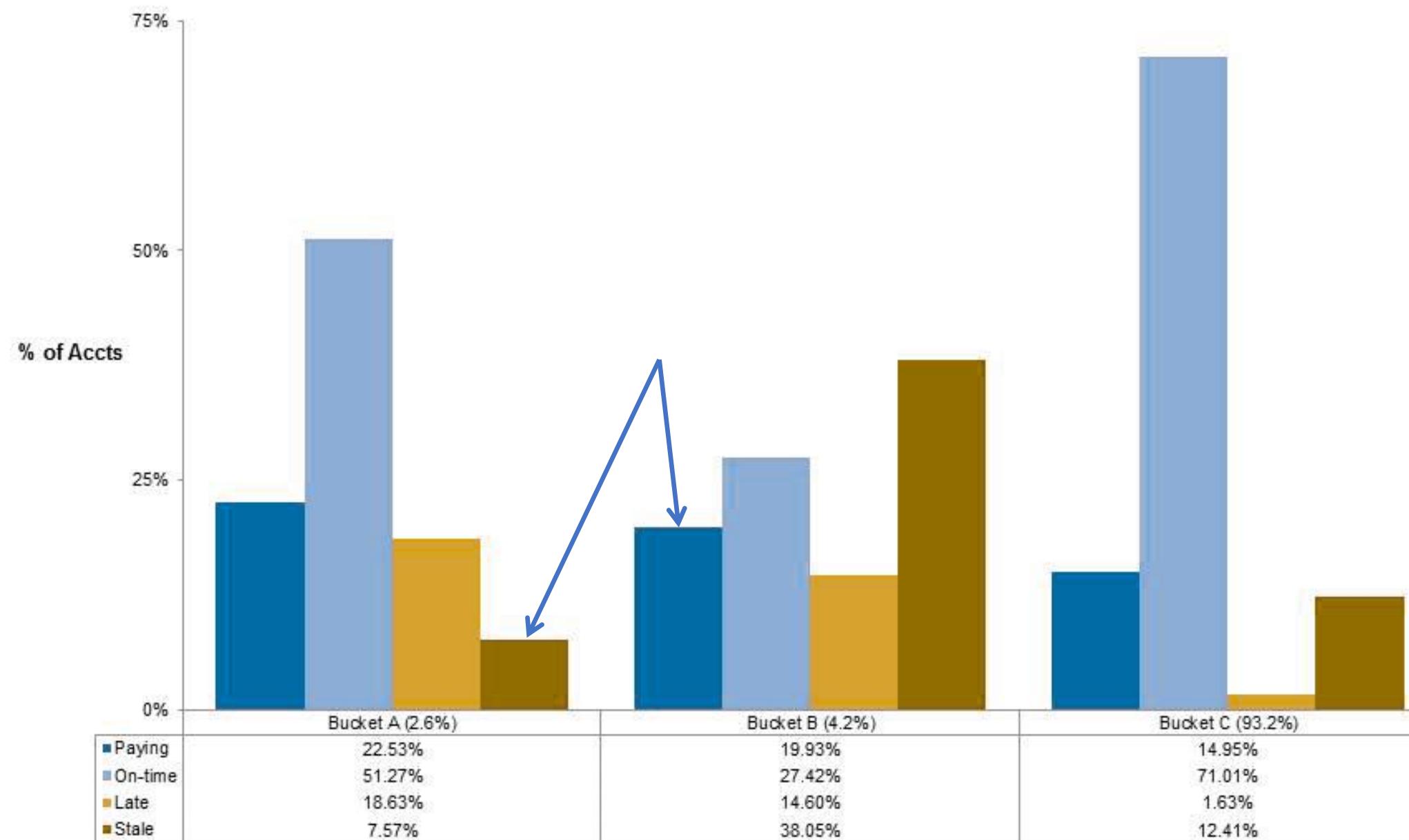


Protanopia Simulation



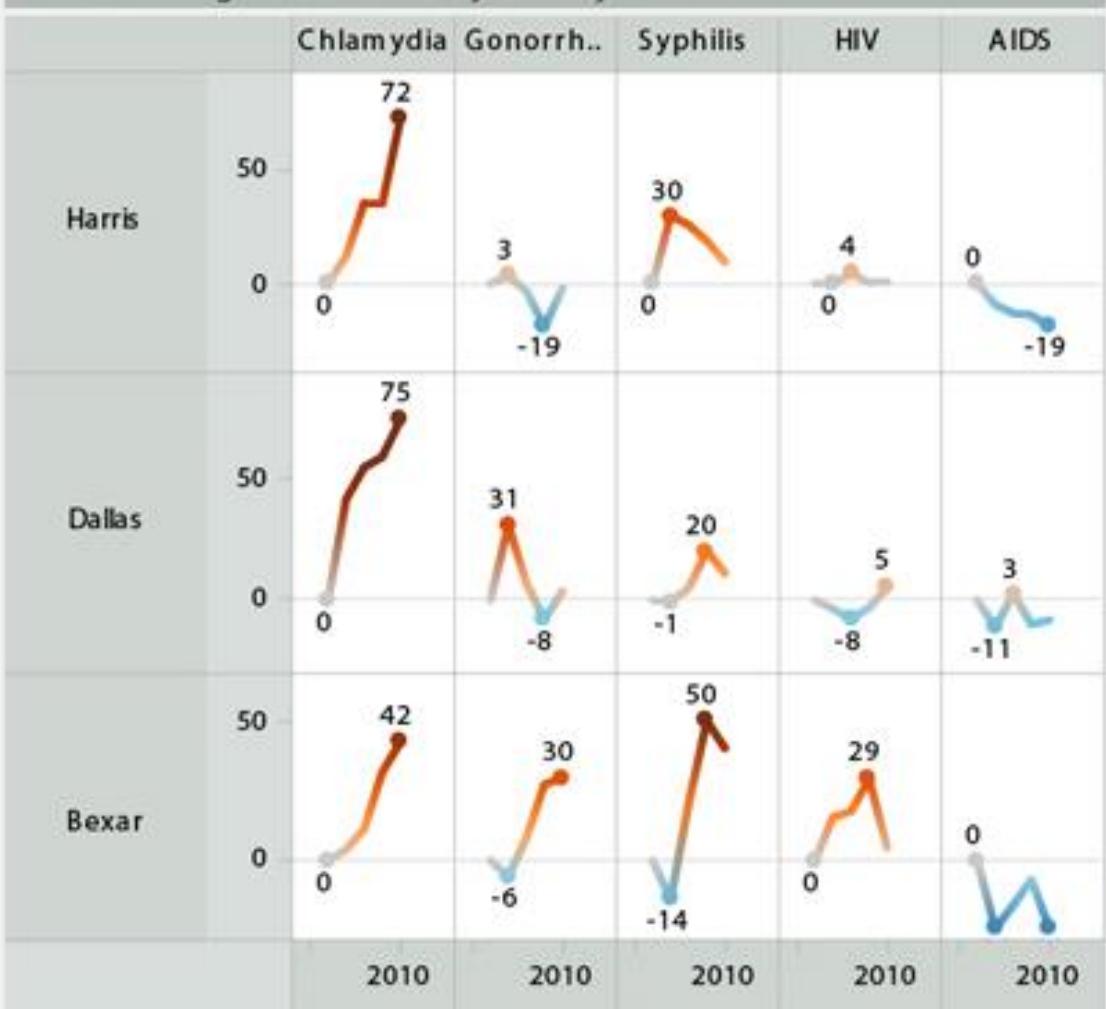
Source: *The Big Book of Dashboards* (Figure 1.25)

Protanope Simulation



Timelines for Counties with Largest Case Count (Top 10%)

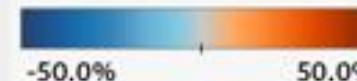
% Rate Change Over Time by County



Hover over the question mark for guidance



% Difference in Rate



Disease Category
All

Disease

- Chlamydia
- Gonorrhea
- Syphilis
- HIV
- AIDS

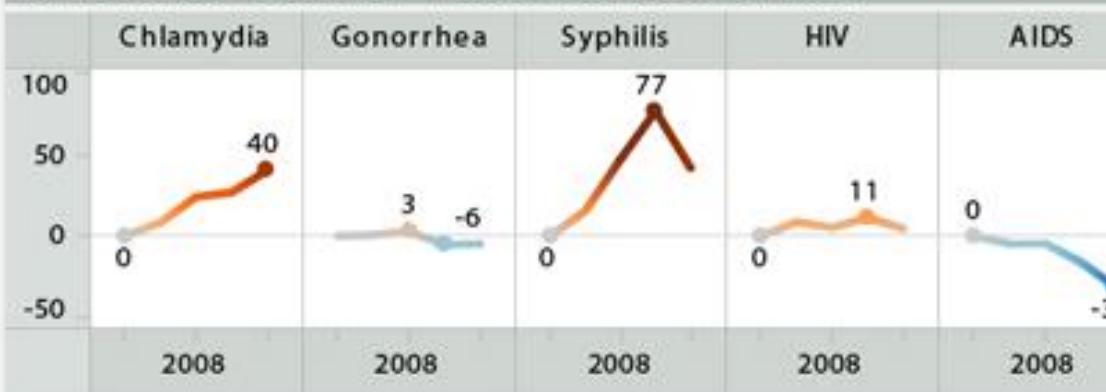
Timeline view
% Rate Change

Show Overall or
Individual Diseases
Show individual

Click to move to
the next view



Totals for Top Counties – % Rate Change Over Time



Economic conditions

In the past year, how has the economic situation in your country changed?

1 Uganda



2 India



3 Iraq



4 Ukraine



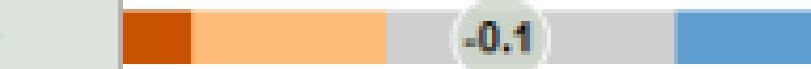
5 Mexico



Meeting household needs

In the past year, meeting your household needs has been...

1 Ukraine



2 Uganda



3 Iraq



4 India



5 Mexico



Move the sliders to control how the indices are computed

Better / Easier

3



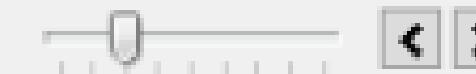
Same

0



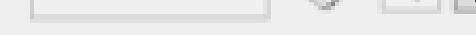
Worse / More Difficult

-2



Much Worse / Very Difficult

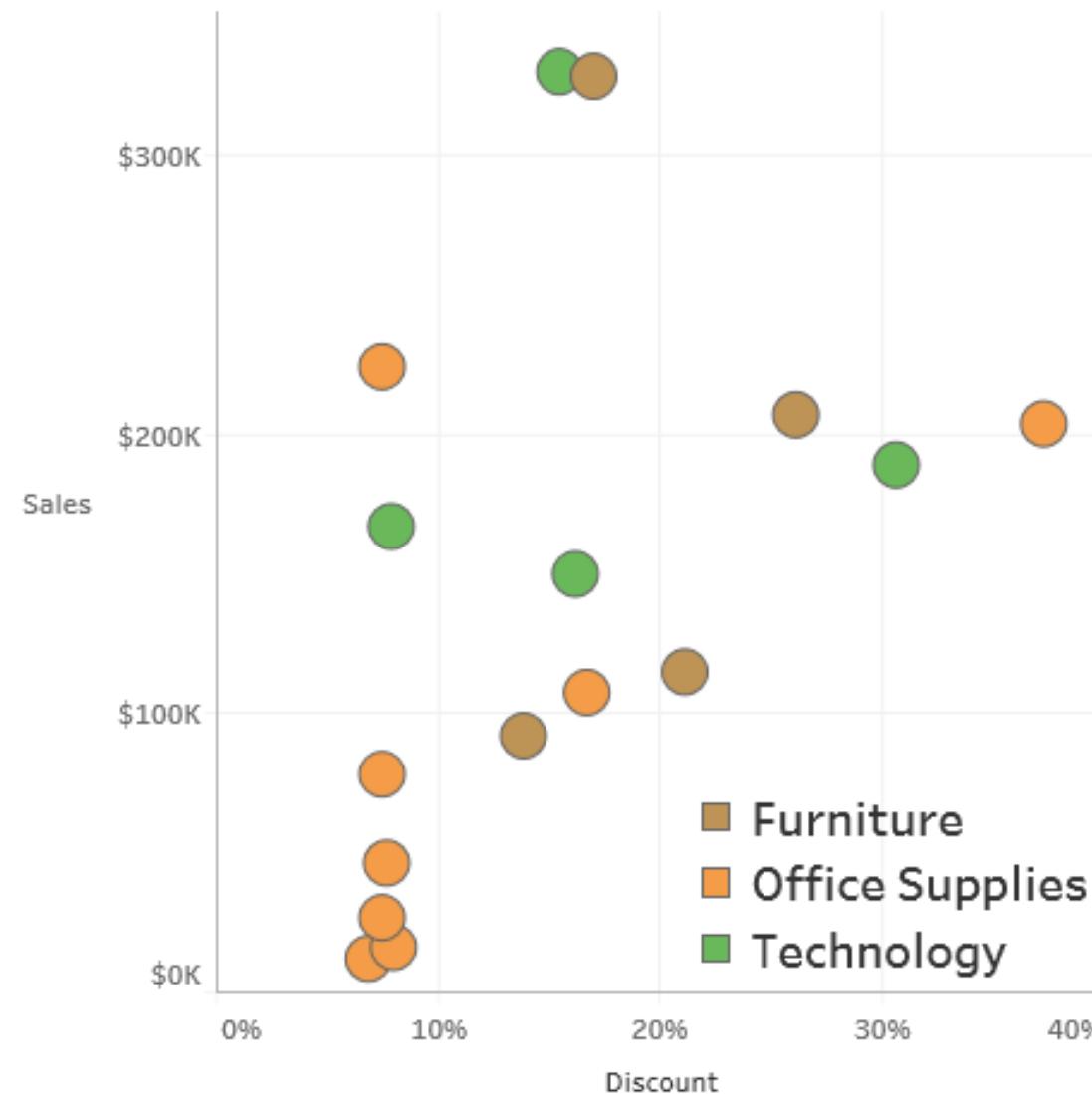
-4



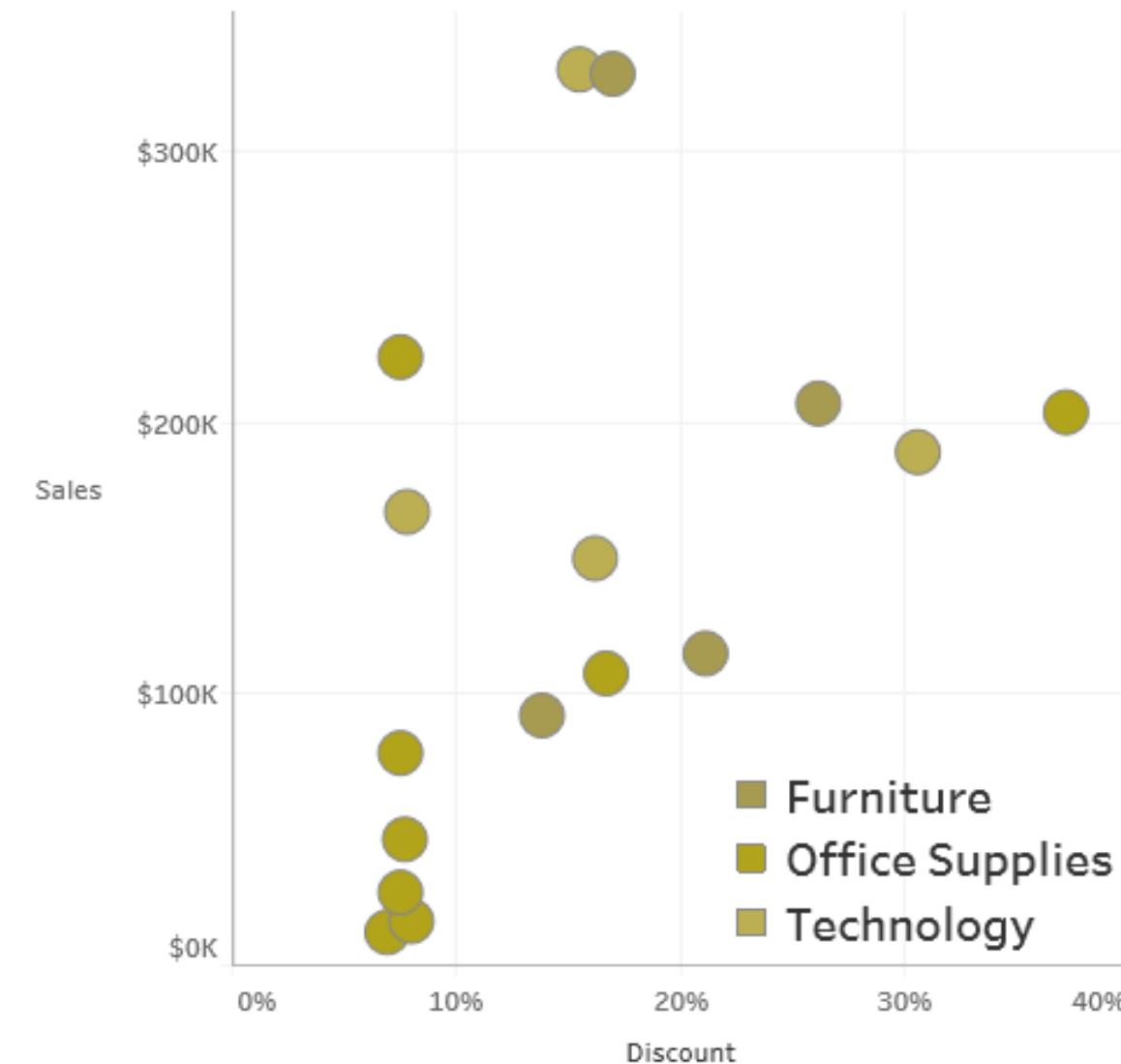
Return to main dashboard

Click here to see analysis

Normal Color



Protanopia CVD Simulation

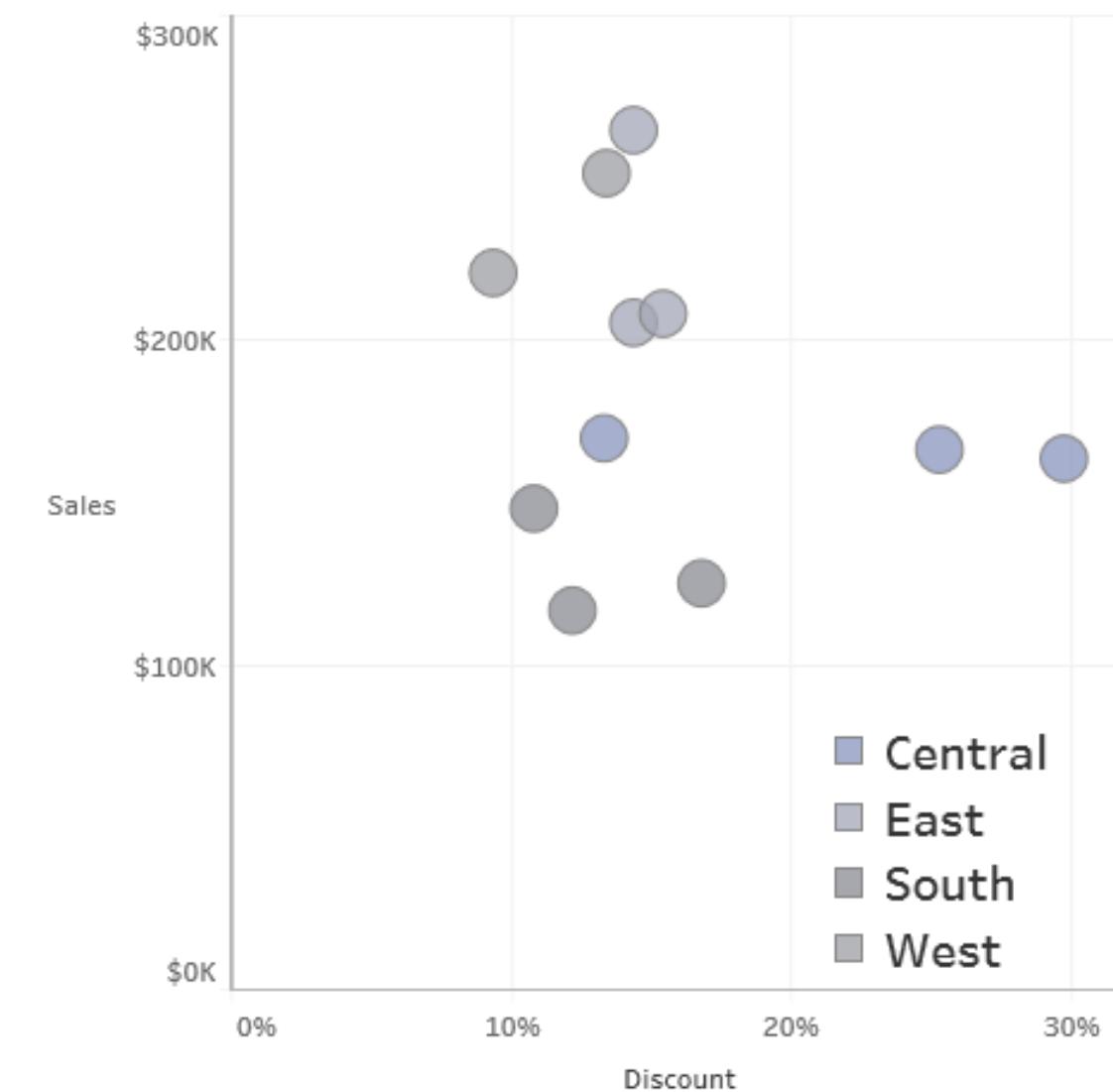


Source: *The Big Book of Dashboards* (Figure 1.26)

Normal Color



Deuteranopia CVD Simulation



Source: *The Big Book of Dashboards* (Figure 1.27)

Traffic Light Color Palette

#E22049



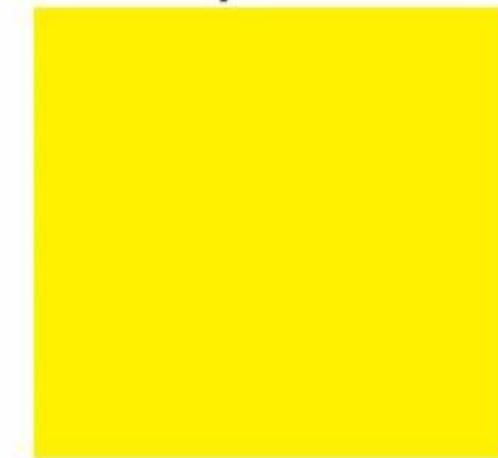
#FFF200



#0D9E49



Deuteranopia Simulation



Source: *The Big Book of Dashboards* (Figure 33.8)

Alternate Traffic Light Color Palette

#8E191C



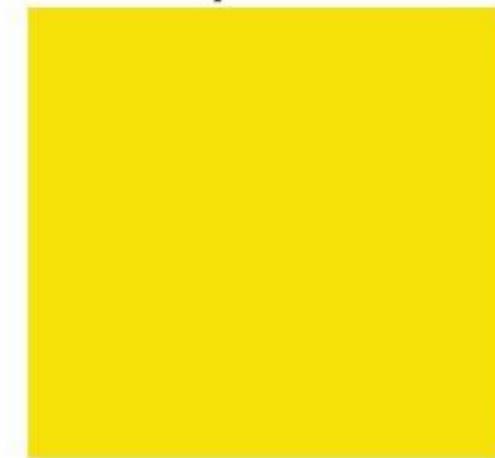
#FFDE17



#83C775



Deuteranopia Simulation



Source: *The Big Book of Dashboards* (Figure 33.9)

Alternate Traffic Light Color Palette

#8D1D1C



#FFDE17



#83C79B

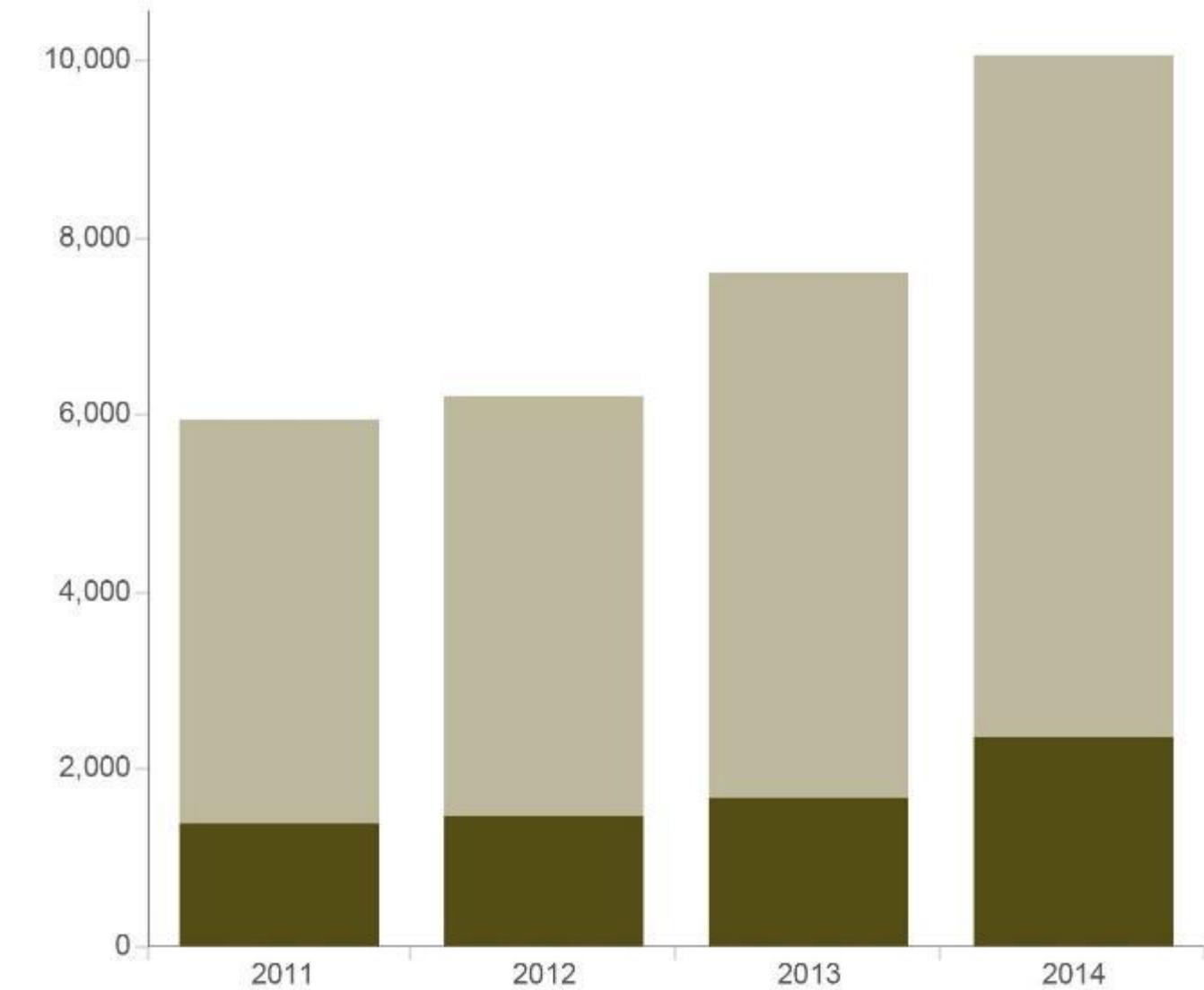
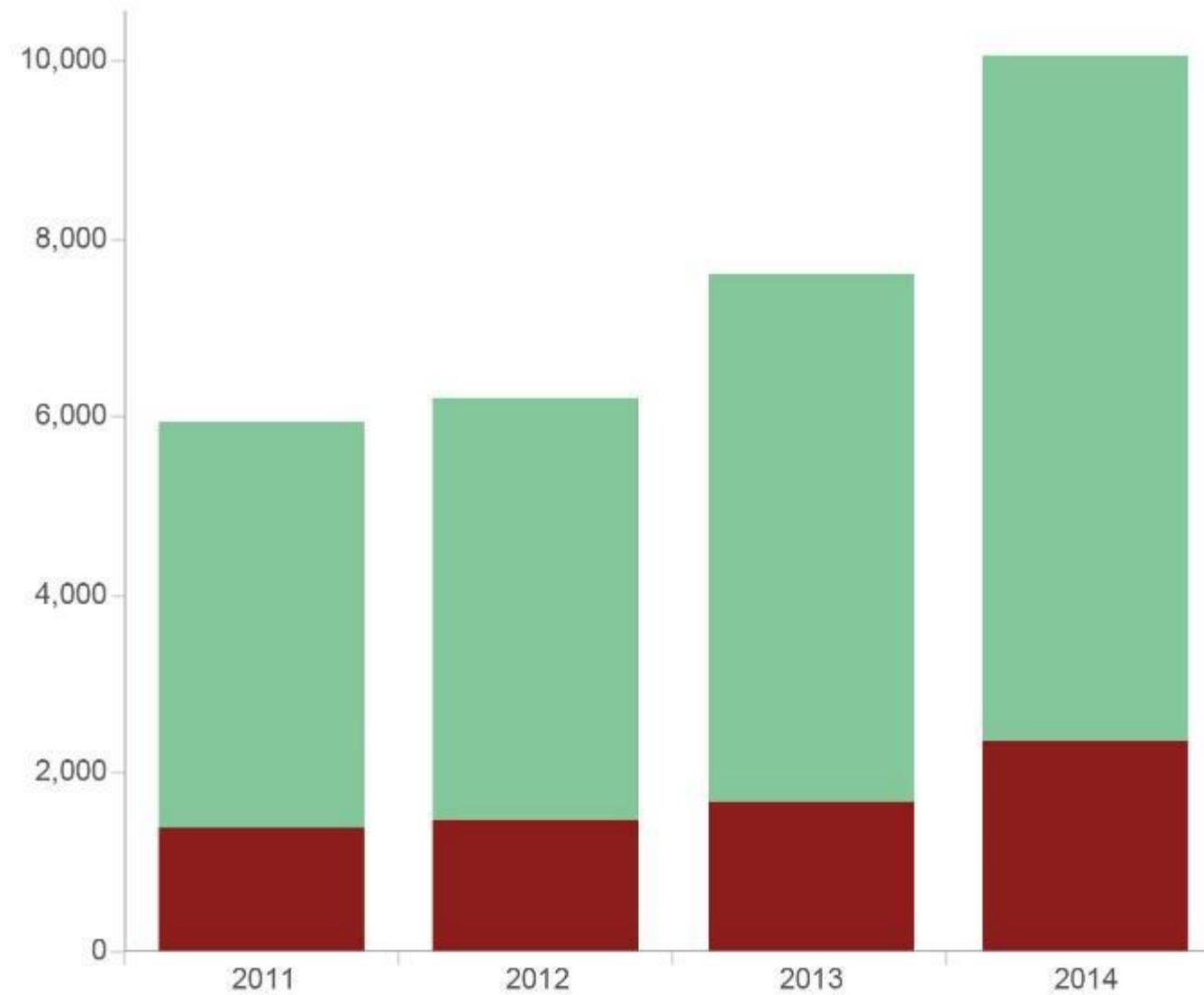


Deuteranopia Simulation



Source: *The Big Book of Dashboards* (Figure 33.10)

Example in Practice



Source: *The Big Book of Dashboards* (Figure 33.11)

Reasons Why I hate Pie Charts



Because I am color
blind

Typography

Who gives a font ?

Sennar
HALLOWEEN



FLICKER FRIGHT LIGHTS

50 Purple Lights



16.3 Ft. Lighted length (4.96 m)
Indoor/Outdoor Use • Connects End-to-End



Specially Designed Purple
Candles & Flickering Fun Effect

Ironicsans

February 19, 2008

Idea: A new typography term

keming. *noun.* The result of improper kerning.

keming. (kĕm'ĭng).

n. The result of
improper kerning.



6000

SMITTY'S
CYCLERY
Bicycle Sales
Repairs • Accessories

SMITTY'S CYCLERY
Bianchi
DIAMONDBACK
FUJI

www.smittyscyclery.com



SMITTY'S
CYCLERY

OPEN

SMITTY'S
CYCLERY
Bicycle Sales
Repairs • Accessories

SMITTY'S CYCLERY
Bianchi
DIAMONDBACK
FUJI

www.smittyscyclery.com



What is Typography?

Typography - the art and technique of arranging type to make written language legible, readable, and appealing when displayed.

Designing and arranging letters and characters.

The arrangement of type includes:

Adjusting the space between pairs of letters

Selecting

- Points sizes
- Leading
- Line lengths
- Letter spacing

Why is it important?

Typography is **everywhere**.

- Phones
- Computers
- Billboards
- Social Media
- Newspapers
- Advertisements

Even your meal deal sandwich has aspects of typography that makes it more appealing to the consumer.



Recent Examples of Typography

September 2015 – Google famously changes its logo to a san-serif type making it easier to scale. This slight change caused a social media uproar.

June 2016 – Facebook changes its typeface from Helvetica to Geneva. The difference was noticeable even though Geneva is only slightly thinner and lighter.

January 2017 – Apple changes its website and iOS 9 operating system from Helvetica Neue to a new typeface they created, called San Francisco, to increase the design appeal.

Google
Google

Geneva
Helvetica

iOS 9
iOS 9

“If I had never dropped in on that single course in college, the Mac would have never had multiple typefaces or proportionally spaced fonts.”

- Steve Jobs

Typeface vs. Font

Typeface vs. Fonts [A Song vs. an MP3]

These two words are commonly used interchangeably, but they have two very separate meanings.

Typeface is used when describing the what you see. It is an abstract way of describing the way a specific collection of letters or characters looks or feels.

“This **typeface** really pulls the whole design together” [A Song]

Font describes the physical embodiment or tangible representation of the collection of letters and characters.

“You should change the **font** size to 14pt so it fits in the box” [an MP3]

Example using Garamond Typeface

Agnóstick
garamond

Agnóstick
Garamond 3

Agnóstick
adobe garamond pro

Agnóstick
Garamond BE

Agnóstick
granjon

Agnóstick
ITC Garamond

These are all the **same typeface** – Garamond, but each one of these is a **different font**.

Serif vs. Sans-Serif

The Basics of Type Classification

serif

Old Style (Garamond)
Transitional (Times New Roman)
Modern (Bodoni)
Slab-serif (Rockwell)

32 points

sans-serif

Grotesque (Neue Haas)
Neo-Grotesque (Arial)
Humanist (Verdana)
Geometric (Avenir)

32 points

Anatomy of a Typeface

The Anatomy of a Typeface



The Anatomy of a Typeface



The Anatomy of a Typeface

ff̄i

character combo

ff̄

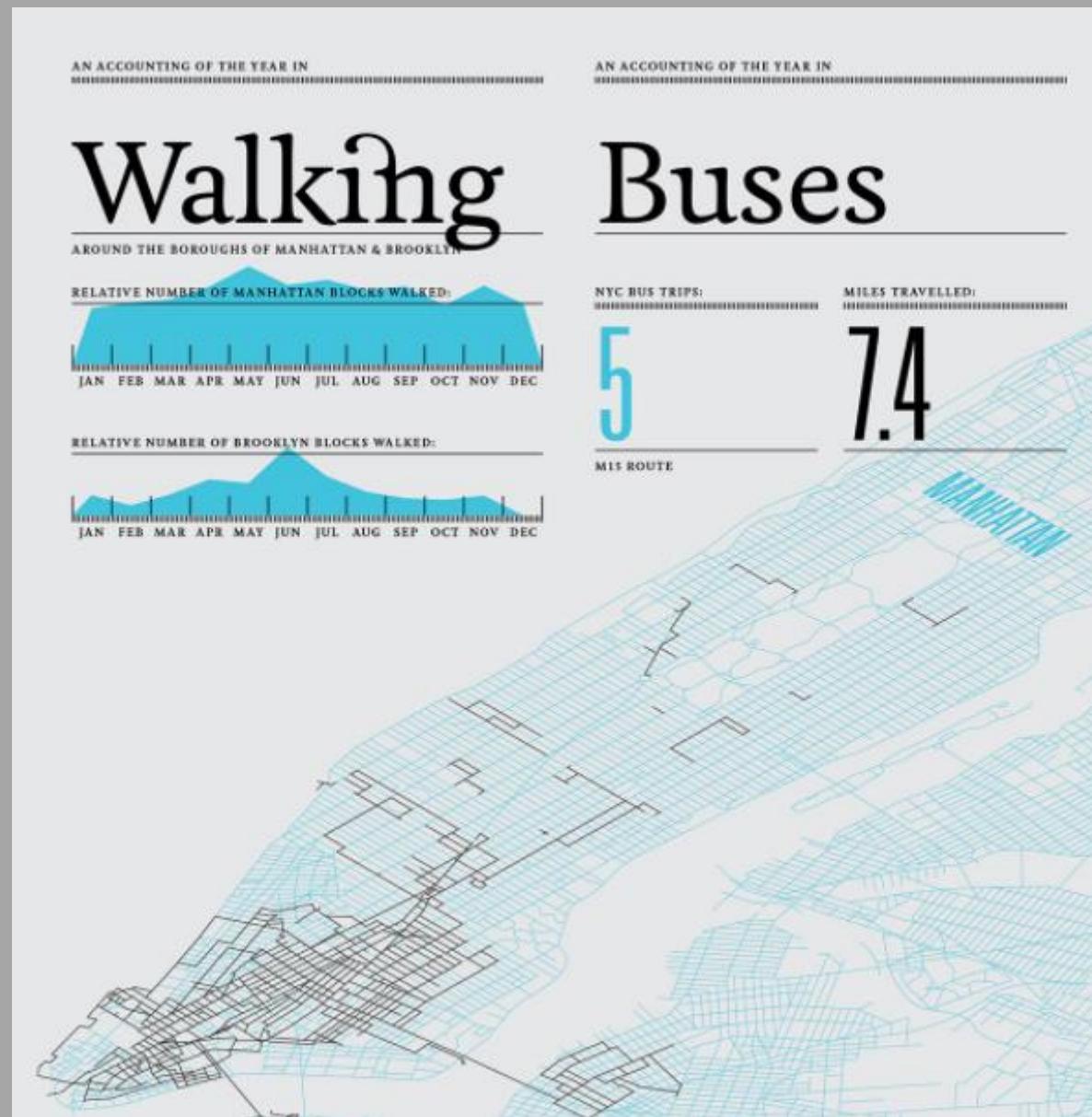
ligature

st

ſt

2007 Feltron Report

<http://feltron.com>



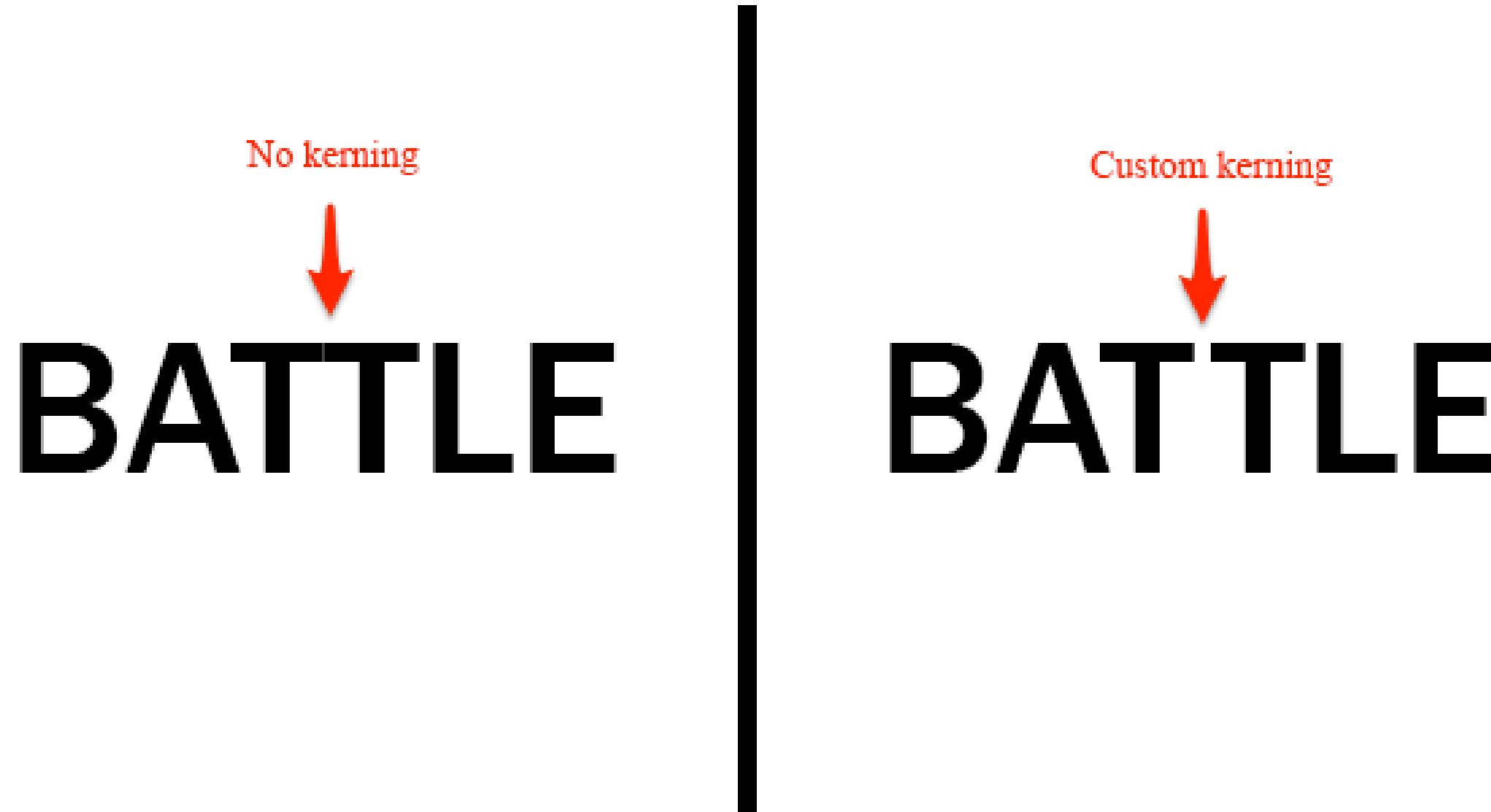
AN ACCOUNTING OF THE YEAR IN

Reading

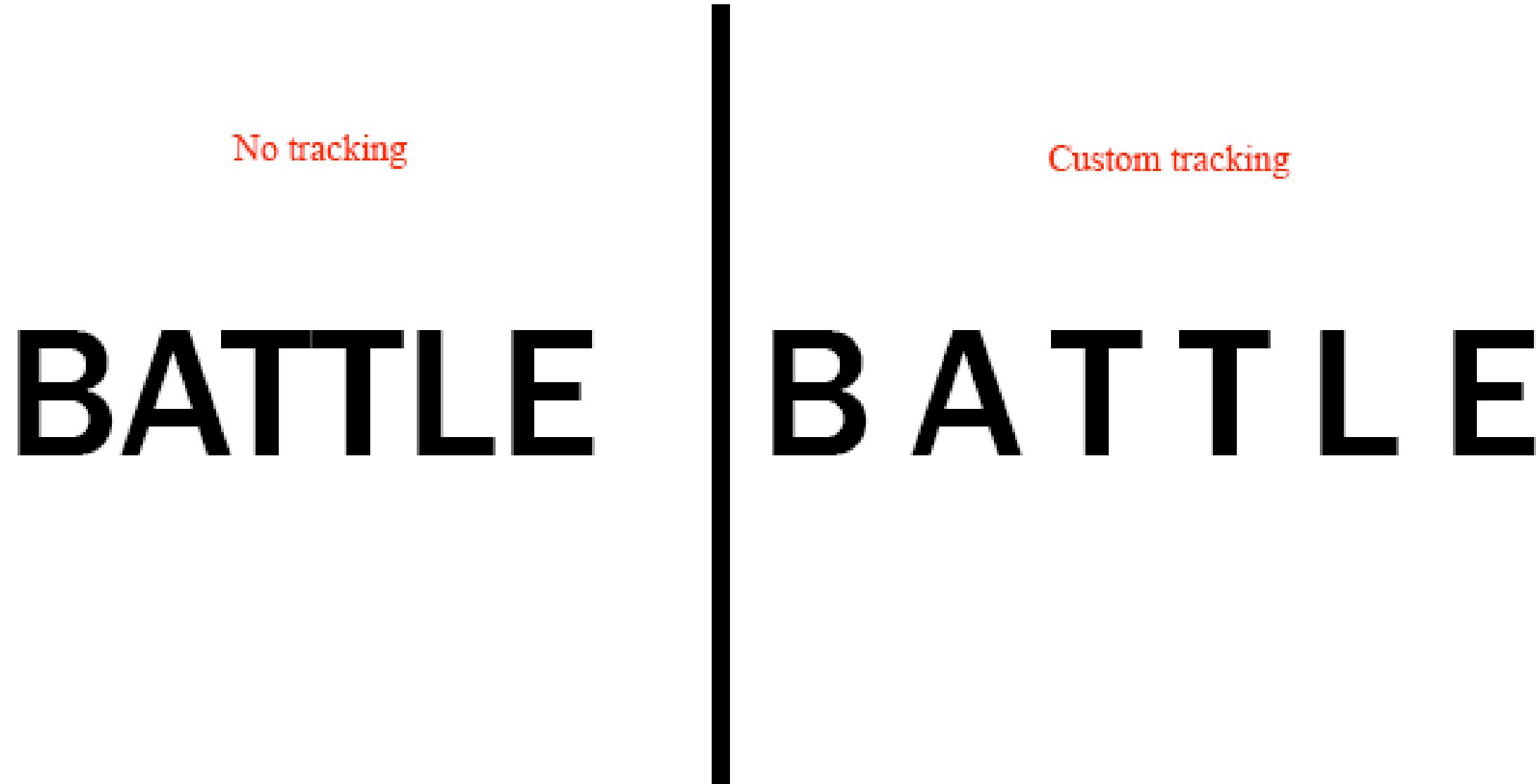
AN ACCOUNTING OF THE YEAR IN

Dining

The Anatomy of a Typeface



The Anatomy of a Typeface



The Anatomy of a Typeface

Remember when teachers would ask you to double-space your essays in school? Well, the terms “single-space” and “double-space” are actually referring to leading, which is the distance between the baselines.

12pt leading

Remember when teachers would ask you to double-space your essays in school? Well, the terms “single-space” and “double-space” are actually referring to leading, which is the distance between the baselines.

30pt leading

Does Typography Connote Emotion?

I Love You.

I Love You.

I Love You.

I Love You.

I Love You.

I Love You.

I Love You.

I Love You.

I Love You.

l o e v u

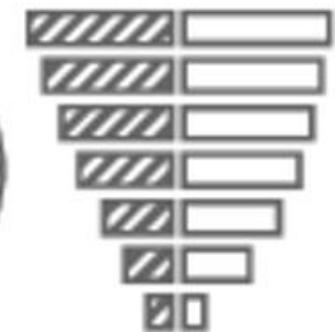
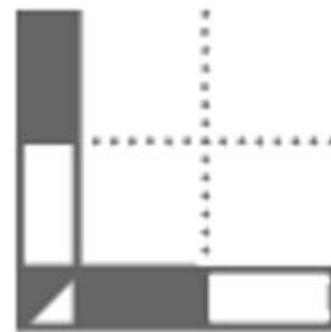
I Love You.

I Love You!

I Λοωε Ψου.

I LOVE you

I Love You.



Perception of Fonts

Perceived Personality Traits and Uses

A Research Study in 2006

[Home](#) › [Usability News](#) › Perception of Fonts: Perceived Personality Traits and Uses

Posted on February 14, 2006 by SURL

Perception of Fonts: Perceived Personality Traits and Uses

By A. D. Shaikh, B. S. Chaparro, & D. Fox

Summary: This study sought to determine if certain personalities and uses are associated with various fonts. Using an online survey, participants rated the personality of 20 fonts using 15 adjective pairs. In addition, participants viewed the same 20 fonts and selected which uses were most appropriate. Results suggested that personality traits are indeed attributed to fonts based on their design family (Serif, Sans-Serif, Modern, Monospace, Script/Funny) and are associated with appropriate uses. Implications of these results to the design of online materials and websites are discussed.

INTRODUCTION

Often credited with creating first impressions, fonts are typically classified according to unique typographical features (serif, sans serif, etc) and overall appearance. The combination of appearance and typographical features often lead graphic artists and typographers to describe typefaces using personality traits ("less cuddly, more assertive," Berry, 2004). In a BBC audio program (Peacock, 2005), fonts were depicted as feminine and masculine, among other traits. Feminine fonts were described as fine, serifed, sleek, and elegant; masculine fonts were characterized as being blocky and bold.

Emotions and Personalities associated with different fonts.

serif fonts – “stable”, “practical” and “mature”

sans serif – not positive or negative

script – “feminine”

Modern fonts – “assertive” and “coarse”

A Research Study in 2008

If It's Hard to Read, It's Hard to Do

Processing Fluency Affects Effort Prediction and Motivation

Hyunjin Song and Norbert Schwarz

University of Michigan

People are more likely to engage in a given behavior the less effort it requires. As numerous studies have indicated, high perceived effort is a major impediment to behavior change, from adopting an exercise routine (e.g., DuCharme & Brawley, 1995) to changing one's diet (e.g., Sparks, Guthrie, & Shepherd, 1997). Although previous research has shown that task type (e.g., Buehler, Griffin, & Ross, 1994) and previous experience (e.g., Thomas, Handley, & Newstand, 2007) influence the accuracy of effort predictions, little is known about how people estimate the effort involved in a novel behavior. One possibility is that people run a mental simulation of the behavior and infer effort from the fluency of the simulation. If so, incidental variables that affect the ease with which information about the behavior can be processed may play a key role in effort prediction. We tested this possibility by presenting instructions in easy- or difficult-to-read print fonts. We predicted and found that people misread the difficulty of processing instructions as indicative of the difficulty of executing the behavior, and that this misperception has downstream effects on their willingness to engage in that behavior.

STUDY 1

Method

Total sample (12 females, 0 males) = 200 people

tine. Finally, participants reported whether they were likely to make the exercise part of their daily routine (7 = *very likely*).

At the end of the study, participants answered two factual questions as a memory test, rated the ease with which the print font could be read (7 = *very easy*), and provided demographic information.

Results and Discussion

As shown in Table 1, participants found the Arial font easier to read than the Brush font, but recalled details of the instructions equally well in the two conditions. As predicted, they estimated that the exercise would take less time and feel "quicker" and more fluent when the font was easy to read than when the font was difficult to read. Accordingly, they reported a higher willingness to make the exercise part of their daily routine when it was described in an easy-to-read font than when it was described in a difficult-to-read font. The observed effect sizes qualify as large (Cohen, 1988).

These findings provided first evidence that people misread the ease of processing instructions as bearing on the ease of executing the described behavior. Study 2 replicated this observation using a cooking recipe. Study 3 extended the findings by testing whether the ease of reading instructions influences

"the challenging font choice made the task seem to require more time to achieve."

A Research Study in 2014

Processing fluency effects: Can the content and presentation of participant information sheets influence recruitment and participation for an antenatal intervention?

Article · November 2014 with 98 Reads

DOI: 10.1016/j.pec.2014.11.005

 Cite this publication

 1st **Andrew Manley**
ai 15.01 · Leeds Beckett University

 2nd **Tina Lavender**
ai 38.69 · The University of Manchester

 3rd **Debbie M Smith**
ai 23.54 · The University of Manchester

Abstract

Objective: To assess the extent to which the title and font of participant information sheets (PISs) can influence pregnant women's and trainee midwives' perceptions of an antenatal intervention. Methods: Pregnant women (n=35) and trainee midwives (n=36) were randomly presented with one of four PISs where the title and font of the PIS had been manipulated to create four experimental conditions (i.e., Double Fluent; Double Awkward; Fluent Title-Awkward Font; Awkward Title-Fluent Font). After reading the PIS, participants rated their perceptions of the intervention (i.e., Attractiveness, Complexity, Expected Risk, Required Effort) using five-point Likert scales. Results: A 4x2 factorial multivariate analysis of variance revealed that pregnant women rated the Double Awkward condition as significantly more complex than the Double Fluent ($p=.024$) and Awkward Title-Fluent Font ($p=.021$) conditions. Conclusion: Font influenced pregnant women's ratings of intervention complexity. Practice implications: Results have implications for ethical recruitment, and in turn, the optimisation of corresponding interventions.

Processing fluency effects: Can the content and presentation of participant information sheets influence recruitment and participation for an antenatal intervention?

The easier the font was to read, the less complex the intervention was perceived

THE 10 COMMANDMENTS OF TYPOGRAPHY

1 KNOW YOUR FONT FAMILIES! EVER HEARD OF GHOTMS?

Geometric Sans

a

Humanist Sans

a

Old Style

a

Transitional

a

Modern

a

Slab Serifs

a

2 COMBINE A SANS-SERIF FONT WITH A SERIF FONT.

Myriad
Minion

AndrewGothic
CASTELLAR

Ocean Sans Std
Garamond

Segoe UI
Lucida Fax

Futura
Minion

Liberal
Garamond

3 COMBINE A SERIF FONT WITH A SANS-SERIF FONT.

Minion
Myriad

CASTELLAR
AndrewGothic

Garamond
Ocean Sans Std

Lucida Fax
Segoe UI

Minion
Futura

Garamond
Liberal

4 COMBINING TWO SIMILAR FONTS IS NOT COOL.

Minion
Novelty

Colonna MT
CASTELLAR

Garamond
Times New Roman

Agency FB
Letter Gothic

Futura
Franklin Gothic

Mandingo
Liberal

5 CONTRAST IS THE KEY.

Futura
CASTELLAR

Liberal
AndrewGothic

Myriad
Ocean Sans Std

Novelty
Advantage

OVERHAUL
Angelina

GENEVA
Futura

6 STICK TO TWO FONTS. ONLY GO FOR THREE IF YOU MUST.

Futura
CASTELLAR

MANDINGO
souvenir It Arial

GENEVA
Advantage
Ocean Sans Std

Novelty
CASTELLAR
Time Roman

AKKA
colonna MT dallas

Akka
BIENVILLE
Castellar

7 DON'T MIX DIFFERENT MOODS.

ROSEWOOD
MANDINGO
GENEVA

ADROSACK
MILDSTOFF
GenevaRoman

Black Chancey
MASQUE
Geometric light

AFRICAN
MATISSE
GildedCage

ALLENB
MECHANICAL
MELOBOULD

Anglican Gothic
MINION
MULTISTROKES

8 COMBINE FONTS OF COMPLEMENTARY MOODS AND OF SIMILAR TIME ERAS.

Black Chancey
Avant

Amaze
festus

ANDES
beugan

Borealis
calibri

GENEVA
BLACK CHANCY

Coronet
Trebuchet

9 USE DIFFERENT WEIGHTS OF FONTS IN THE SAME FAMILY.

Minion
Garamond

Myriad
Futura

GENEVA
DALLAS

November
Niagara

Valken
VAGRounded

TRAJAN
Sylfaen

10 AND LASTLY, PLEASE AVOID THE FOLLOWING FONTS...

Comic Sans

Papyrus

Curlz

Viner

Kristen

Σψυβολ

10 Rules for Effectively Combining Fonts

10 Rules for Effectively Combining Fonts

1. Choose complimentary fonts
2. Establish a visual hierarchy
3. Consider context
4. Mix serif with sans serif
5. Create contrast
6. Stay away from font conflict
7. Avoid fonts that are too similar
8. Use fonts in the same family
9. Limit the number of fonts used
10. Practice

1. Choose complimentary fonts



2. Establish a visual hierarchy



JANUARY 4, 2015 BOSTON SUNDAY GLOBE Editorial K5

Opinion

JOAN VENNOCHI

A disabilities act, long in planning, is finally law

BEFORE LEAVING for Christmas vacation, Rep. Ander Crenshaw, the Florida Republican who introduced the bill that allows people with disabilities to open tax-free savings accounts to pay for certain life expenses, was so worried about its fate that he held a press conference to explain why it had been held up in the Senate. The bill passed 240 to 17 in the House, and 76 to 16 in the Senate, but it had been part of a larger tax credit extension bill.

By allowing people with disabilities to save money in tax-free accounts, "you are touching the lives of a lot of Americans," said Crenshaw. "You can save money to go to college or to start a business or to buy a house or to pay for disability expenditures.... It was forced impoundment."

The saga of the ABLE Act also shows grassroots movements can achieve change—but it can take years to happen. The disabilities community's success is a reminder that sometimes amorphous without relentless lobbying and the right mix of political will.

According to the Washington Post, Rick Hodges of Arlington, Virginia, came up with the idea of tax-free savings accounts for disabled people saving money for a daughter with Down syndrome. He brought it to the Down Syndrome Association of Northern Virginia, whose president at the time, one member's neighbor, was John Ariola, then Crenshaw's chief of staff. He took it up with his colleagues in Congress and lobbied for the inclusion of the bill and kept pushing for it.

As the Post also reported, Steve Beck of Fairfax County, Virginia, whose daughter has Down syndrome, led the fight for the legislation and personally brought his son to the hills of congressional offices in Washington five days after the House passed the ABLE Act and in his first term as a representative to the 113th.

Rep. Stivers may have helped plant the seeds, according to James Brett, president and CEO of the National Down Syndrome Society, a member of the President's Committee for People with Intellectual Disabilities. In 2005, said Brett, members of the committee, including those with intellectual disabilities—including John Nadworny, a financial planner (and friend of mine), Barbara Marzola, a dietitian, and Dr. Linda and Barbara Marzola—worked on a tax-free savings plan proposal that Brett presented to the President's Committee for People with Intellectual Disabilities. In 2006, said Brett, Representative from the Down Syndrome Association of Northern Virginia, who served on a subcommittee in which Brett was a member, was Robert P. Casey, a Democrat from Philadelphia. Dr. Linda and Barbara Marzola worked on a tax-free savings plan proposal that Brett presented to the President's Committee for People with Intellectual Disabilities.

"Finally this year, we got it done," said Brett, who added, "we were opposed," and I mean of his initial lobbying for it. "You need champions."

The Down Syndrome Association of Northern Virginia, which has a website, [dsaz.org](http://www.dsaz.org), reports. It had a champion in Crenshaw. That plus support from families and organizations across the country, and the support of the Senate when it passed the House and then the Senate, Crenshaw credits Senator Robert P. Casey, a Democrat from Philadelphia, with the bill's success.

"This was a rare case," said Crenshaw, of "Democrats and Republicans, the House and Senate, all coming together." As far as its origins, Crenshaw paraphrased Rep. Bob Rogers, who introduced the bill: "It's not about who gets the credit, as long as you don't care about who gets the credit."

Crenshaw is a Democrat, but he's a moderate, and he's not afraid to say it. "It's important and it's the right thing to do; it's worth pushing."

The ABLE Act has its limitations. If a savings account balance exceeds \$100,000, for example, there will be a reduction in the individual's SSI check. This might help people who have money to save, tax policy analyst Howard Gleckman pointed out.

But still, it accomplishes an important goal. It allows people with disabilities to save money and achieve the best possible, just like anyone else.

Joan Vennochi can be reached at vennochi@globe.com. Follow her on Twitter @Joan_Vennochi.

MIKE ROSS

Rise of the urban farmer

Farms in the city are very different from the massive fields in the heartland. And so are the people who tend them.

THIS SUMMER before my senior year in college, I traveled to Alaska with a group of friends to work at a salmon farm. We were paid well, but we worked long hours, working 20-hour shifts, endlessly gleaning, swimming along the main trail of Alaska salmon that goes through the wet center of the state.

The work was more arduous than it was career choices, as by the end of my three-month gig, I was quite ready to return to my parents' home in New Jersey. But then I met Michaela Will, who also served on the President's Committee for People with Intellectual Disabilities. She was a small-farm movement activist, and her job was to teach us how to grow our own food. She got me a nice country desk job one day soon.

Chris Kurth, who today owns Sloca Farms in Franklin, New Jersey, was another person who taught me about the importance of knowing your chef. The other factor driving small farms is consumers' desire for local food. An economic model that started in Europe and arrived first in Massachusetts in the 1980s, consumers now buy direct from farmers, getting produce from farmers in advance of the season and then collect a bounty of fresh produce.

ILLUSTRATIONS BY ANDREW RICK FOR THE BOSTON GLOBE

Two colorful illustrations by Andrew Rick. The top illustration shows a man wearing a yellow hat, a blue shirt, and overalls, working in a garden with a pitchfork. The bottom illustration shows a pink pig standing in a field of various crops, including green leafy plants and yellow ears of wheat.

3. Consider context



21

WARUM FRANZOSEN BEINAHE ALLES GLAUBEN

© Tim Zahn
Shutterstock.com

In Trust Us We're Experts (Glauben-Sie-uns-wir-sind-die-Experten) haben Stauben und Raington einige verbüffende Daten zusammengetragen, welche die Wissenschaft der Bildung einer öffentlichen Meinung in Amerika beschreiben. Sie verfolgten die moderne öffentliche Bewußtseinsbildung zurück bis in das frühe vorige Jahrhundert, beleuchten die Arbeit von Typen wie Edward L. Bernays am Ende dieses Berichtes, habe ich mit Klar Biographisches von diesem Mann zusammengetestet, dem Vater der Verführung. Aus seiner eigenen entzückenden Chronik Propaganda lernen wir, wie Edward L. Bernays die kleinsten series berühmten Orakels Sigmund Freud selbst aufnahm und sie auf die sich bildende Wissenschaft der Massenbeinflussung anwendete. Charakterwischung der Deutschen mittels Psychoanalyse. Der einzige Unterschied war, daß anstatt diese Prinzipien zu verwenden, um verborgene Motive im menschlichen Unterbewußtsein aufzudecken, wie es die Freudsche Psychologie macht, Bernays diese beiden Ideen verwendete, um Absichten zu verkennen und Illusionen zu schaffen, welche aus Marketing-zwecken betrogen und verfälscht darstellen. Der Vater der Verführung Bernays dominierte die PR-industrie seit den 40ern und war für die nächsten 40 Jahre danach eine bedeutende Kraft.

Bernays populisierte die Idee vom Speck zum Frühstück.
Als einer der Herausforderungen nicht abschlägt, rüttete er zusammen mit der AMA (American Medical Association) die Werbestrukturen ein, welche fast 50 Jahre wähnten, welche bewiesen, daß Zigaretten gesundheitsschädigend seien. Schauen sie rung mal in Ausgaben der Time oder Life aus den 40er oder 50er Jahren.

Und heute genau das Gegenteil. Während der Nachkriegsjahre entwickelte Bernays und seine Kollegen die Prinzipien, mit welchen allgemeine Menschenmassen durch Nachrichten, die immer wieder, hunderte Male wiederholt wurden, beeinflußt werden konnten. Als der Wert der Medien erkennbar wurde, versuchten andere Länder, unserer Spur zu folgen.

Das ist die Frage, wen hier weniger Spur verfolgte, dann in Europa waren die Konzepte der Massenbeeinflussung schon viel früher eingeschrieben worden als in den USA – sie Gustave Le Bon, Elia Canetti und andere. Aber Bernays war der goldene Standard.

josef Goebbels, der Propagandaminister unter Hitler war, studierte die Prinzipien von Edward Bernays. Goebbels studierte alles, was er in den Händen bekam, was ihm möglich erschien, wie man die Massen beeinflussen könnte. Als er die volksorientische Begründung entwickelte, mit der er die Deutschen überzeugen wollte, daß sie ihre Rasse reinigen sollten.

Selte 01 – Warum Amerikaner beinahe alles glauben

»

4. Mix serif with sans serif

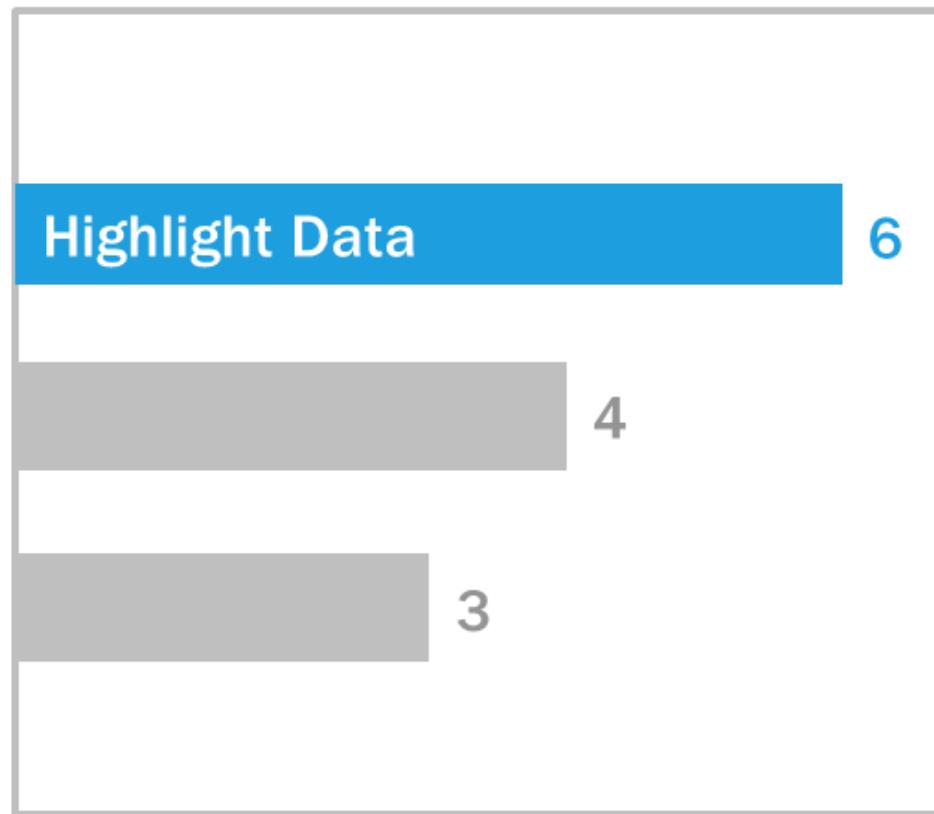


5. Create contrast



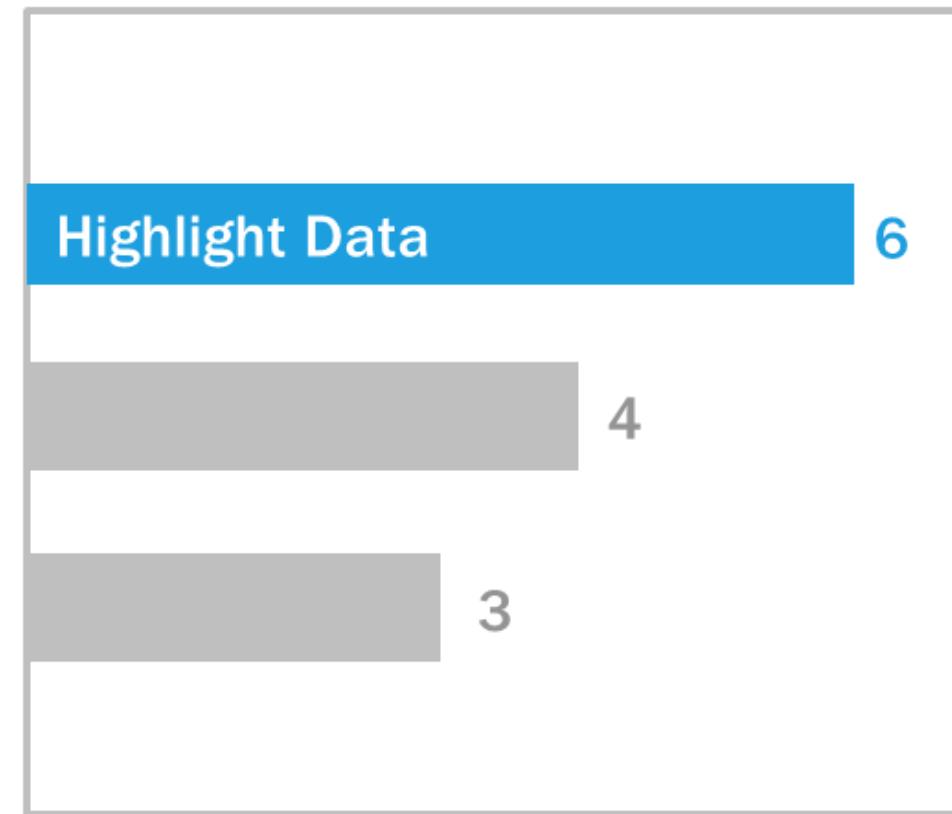
Top Level Font

Mid Level Font



Low Level Font

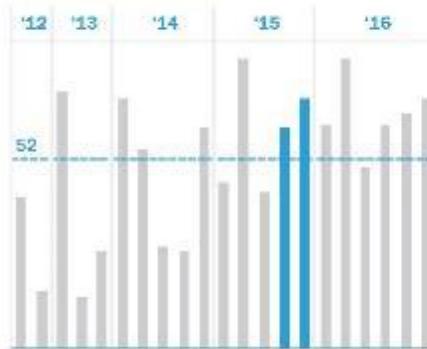
Mid Level Font



Low Level Font

Course Metrics

Students



1097

Total students in five years

Enrollments



687

Total students in 2015-2016

Classes



21

Total classes in five years

Ratings



7.7 of 8

Most Recent Instructor Rating (out of 8.0)

Semesters

2015 Fall Semester 001

Questions

I developed specific skills and competencies

Overall, this was an excellent course

The instructor communicated clearly

The Instructor graded fairly

The Instructor was well organized

The instructor interacted well with students

Overall, this instructor was excellent

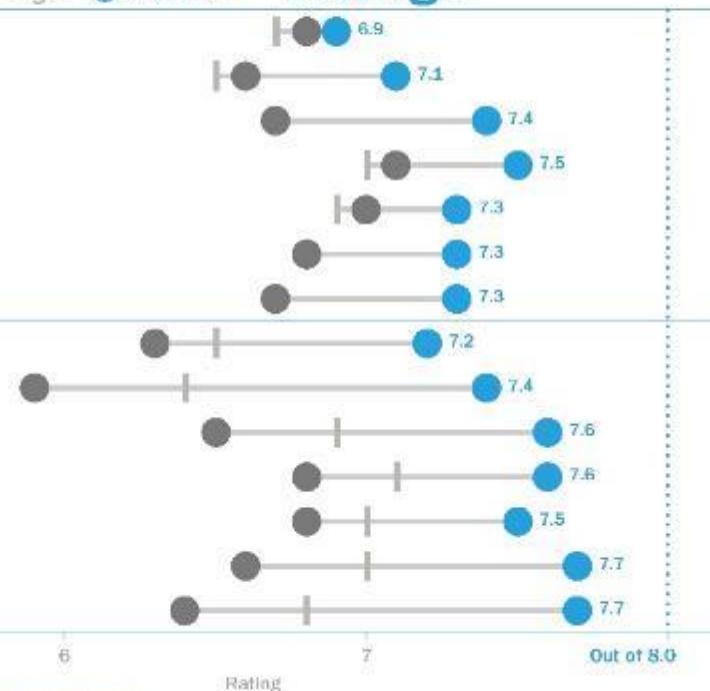
2015 Fall Semester 002

BANA

| College

Shaffer

Ratings



Course Metrics Dashboard created by Jeffrey A. Shaffer. Data from University of Cincinnati Course Evaluations. Blue indicates the 2 most recent rating periods.

Source: *The Big Book of Dashboards* (BigBookofDashboards.com)

6. Stay away from font conflict



7. Avoid fonts that are too similar

Handgloves

Handgloves

8. Use fonts in the same family

The graphic features three distinct sections, each representing a different font from the Code Pro family. The top section, titled 'Chicago', includes the text 'How quickly daft jumping', 'COMPLETOFIONS', 'Pâmée de pèze à ce gîte', 'LATINTYPE', and 'Cwm fjord-bank glyphs'. The middle section, titled 'Belgrano', includes the text 'Portugal con alameda', 'Sphinx of black quartz', and 'SPHINX'. The bottom section, titled 'Sphinx', includes the text 'Portez ce vieux whisky' and 'Emilia viene en camino'. All sections share a common header: 'CODE PRO NO20004789'. Below the sections, there are two rows of character sets. The first row contains: ABCDEFGHIJKLMNOP, PQRSTUVWXYZÄÖ, ËÉÊËÒÓÔÖÙÚÜ, and 0123456789?!. The second row contains: ABCDEFGHIJKLMNOP, PQRSTUVWXYZÄÖ, ËÉÊËÒÓÔÖÙÚÜ, and 0123456789?!. The font weights shown in the main text are LIGHT, REGULAR, and BOLD.

CODE PRO NO20004789

LIGHT
REGULAR
BOLD

CODE PRO LIGHT
CODE PRO REG
CODE PRO BOLD

ABCDEF^IGHIJKLMNOP
PQRSTU^VWXYZÄÖ
ËÉÊËÒÓÔÖÙÚÜ
0123456789?!

ABCDEF^IGHIJKLMNOP
PQRSTU^VWXYZÄÖ
ËÉÊËÒÓÔÖÙÚÜ
0123456789?!

Chicago
How quickly daft jumping
COMPLETOFIONS
Pâmée de pèze à ce gîte
LATINTYPE
Cwm fjord-bank glyphs

Belgrano
Portugal con alameda
Sphinx of black quartz
SPHINX
Portez ce vieux whisky
Emilia viene en camino

9. Limit the number of fonts

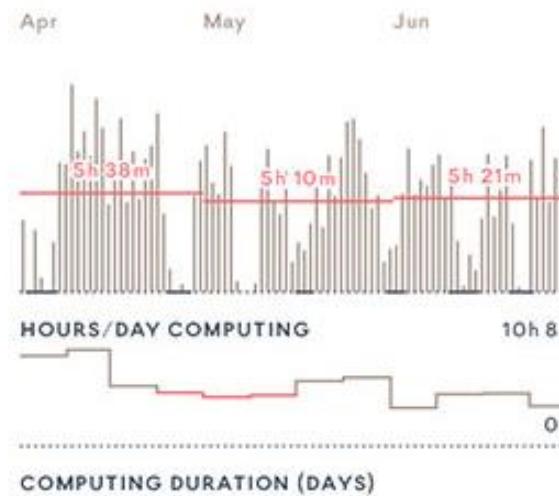


10. Practice Makes Perfect

2008 Feltron Report

<http://feltron.com>

Computing



20.4

11.9 DAYS LESS THAN PREVIOUS QUARTER

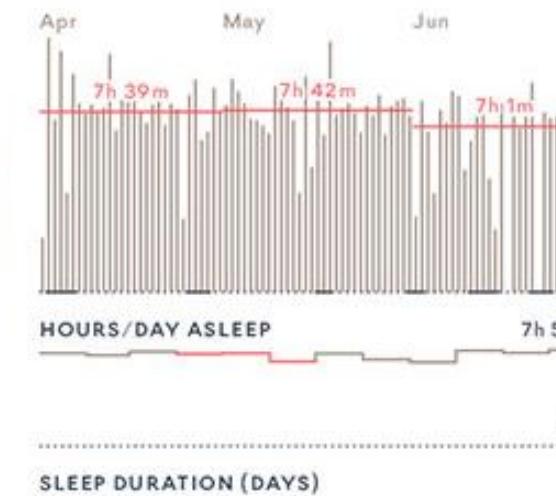
TOP APPLICATIONS	AVG PRODUCTIVITY
Photoshop	105h
InDesign	56h
Mail	41h
Finder	19h
Facebook	18h

LONGEST SESSION	
Sketch	4h 55m on Jun 30

MOST PRODUCTIVE	DAYS OFF COMPUTER
Apr. 9	Four

77% productive for 11h 50m

Sleep



27.7

1.4 DAYS MORE THAN PREVIOUS QUARTER

TOP SLEEP TYPES	AVG HEART RATE
Light	373h
REM	151h
Deep	135h
Unknown	5h
Interrupted	3h

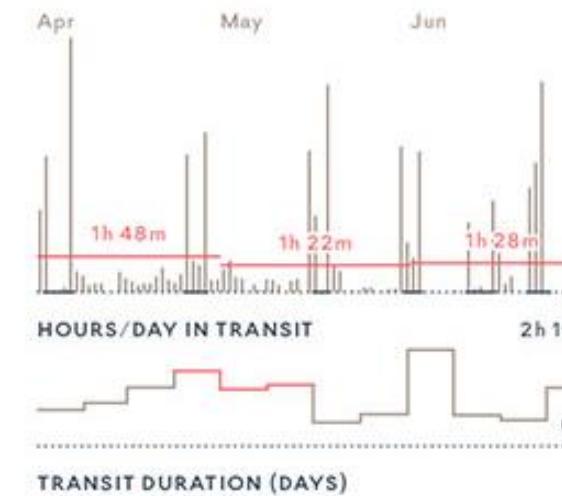
AVG TOSS/TURNS
29

Max: 64 on Apr 2

INTERRUPTIONS
Twenty-four

Undisturbed nights: 67

Transit



5.9

1.7 DAYS MORE THAN PREVIOUS QUARTER

TOP TRANSIT TYPES	TOTAL TRANSITS
Airplane	67h
Car	56h
Subway	14h
Bus	5h

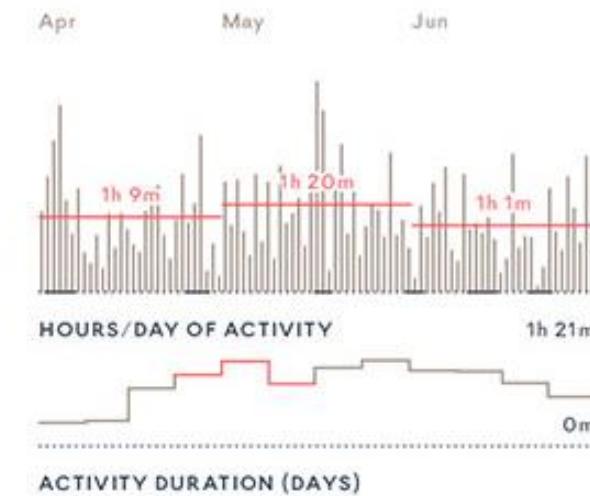
TOTAL DISTANCE
34,658 mi

Avg speed: 15.9 mph

PUBLIC TRANSPORT
78 trips

63 subway and 15 bus

Activity



4.5

2.1 DAYS MORE THAN PREVIOUS QUARTER

TOP ACTIVITIES	WALKING
Walking	85h
Running	16h
Cycling	3h
Snowshoeing	2h

RUNNING
107.8 mi

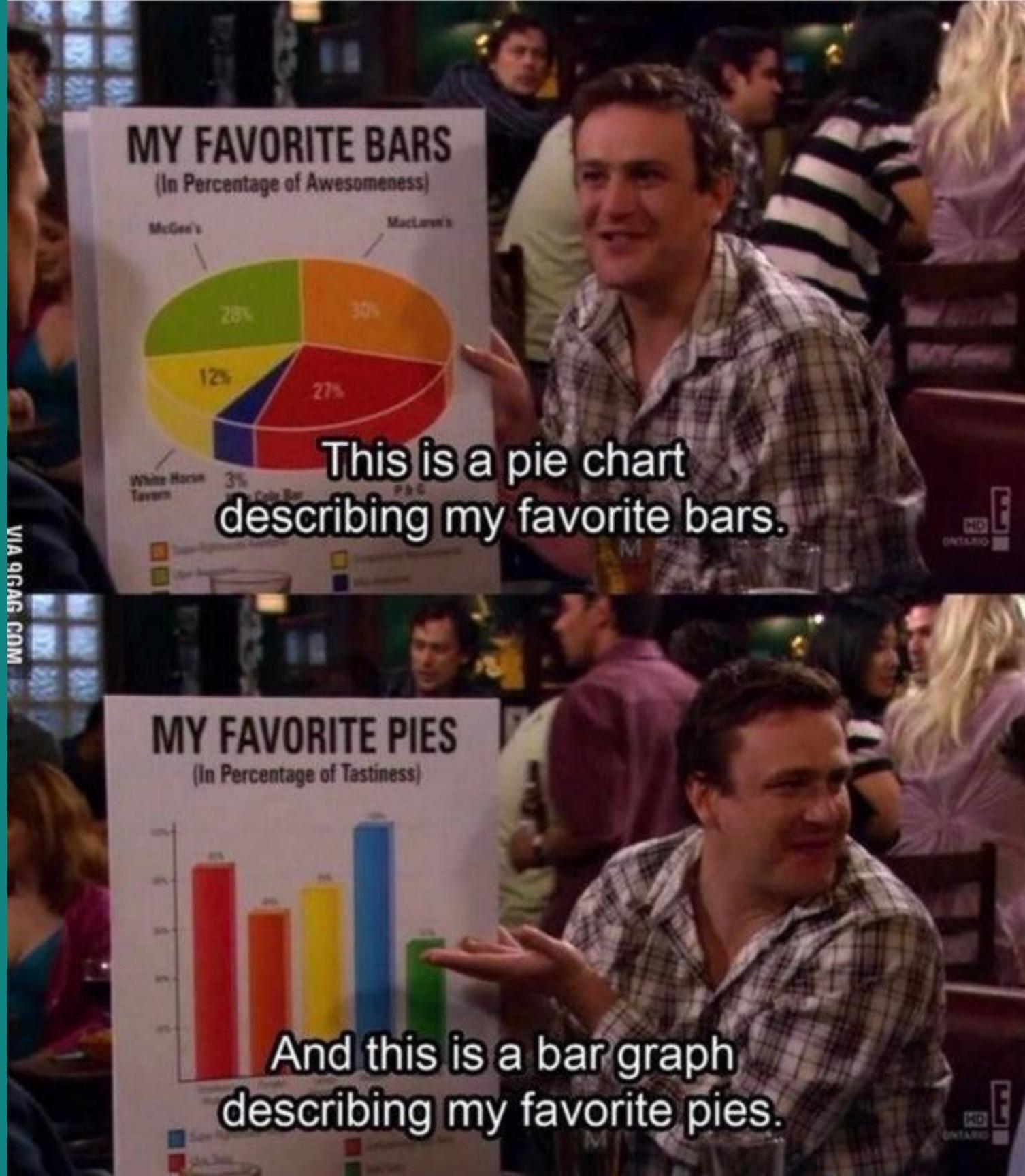
Max: 9.1 miles on May 16

CYCLING
45.4 mi

Max: 4.1 miles on Jun 28

Chart of the week

Word Cloud



Click to edit Master title style

Click to edit Master title style

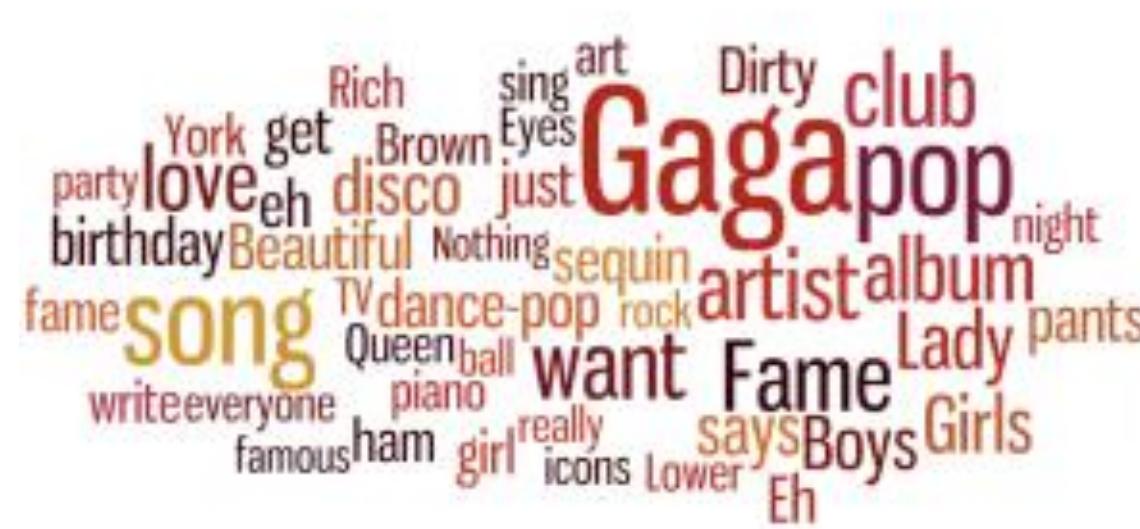
Word cloud on Student Feedback for the University of Cincinnati

Is this good or bad?



Data from: http://www.studentsreview.com/OH/UC_c.html

Online Biography of the Pop Singer Lady Gaga



(left) Single-word phrases (unigrams)
phrases



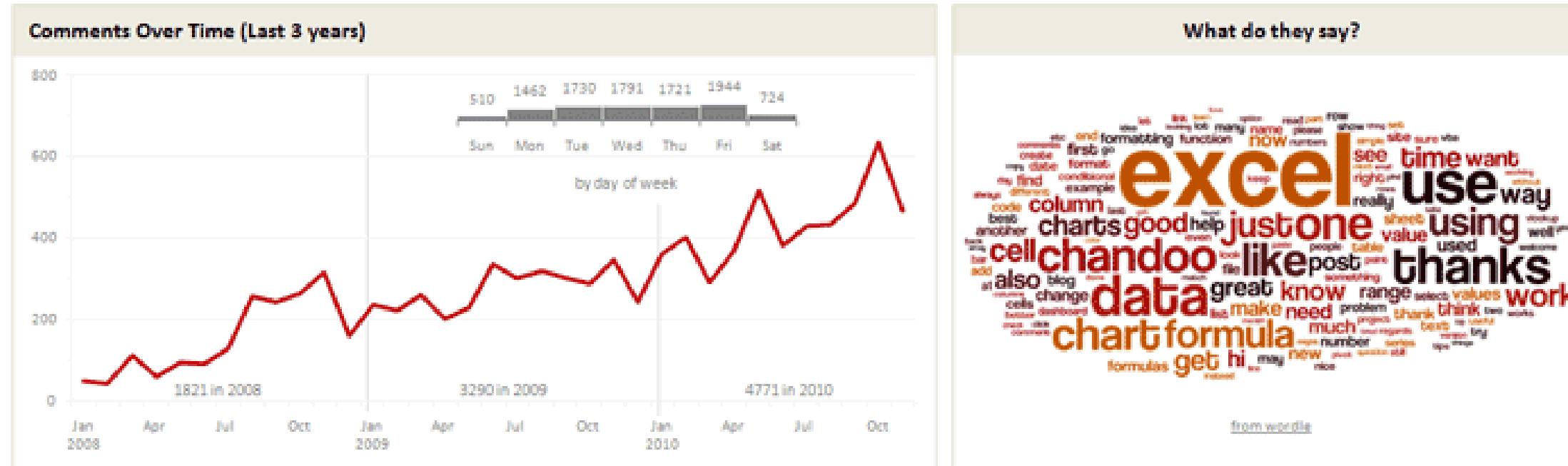
(right) Multiword
phrases

Source: The Stanford Visualization Group (vis.stanford.edu)

"Without the Clutter of Unimportant Words": Descriptive Keyphrases for Text Visualization
Jason Chuang, Christopher D. Manning, Jeffrey Heer

10,007 Comments - Dashboard Visualization

On November 21st, 2010, Chandoo.org has received its 10000th comment



Last 3 years

	Days with Zero Cmts	Most Active Day
2008	66	1 August
2009	15	4 August
2010	5	29 October

Words Said	Min	Median	Max
2008	1	33	606
2009	1	35	700
2010	1	32	900

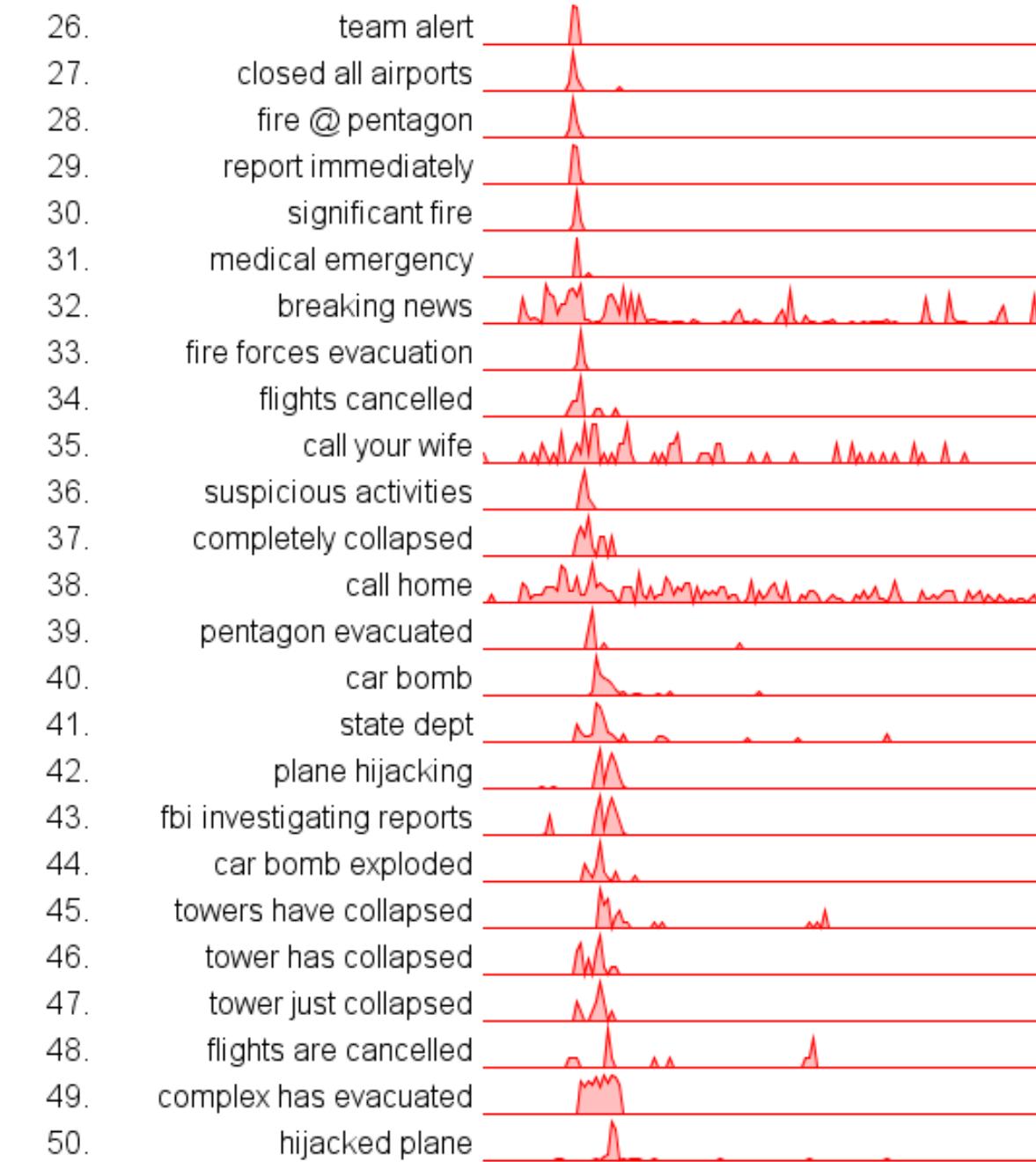
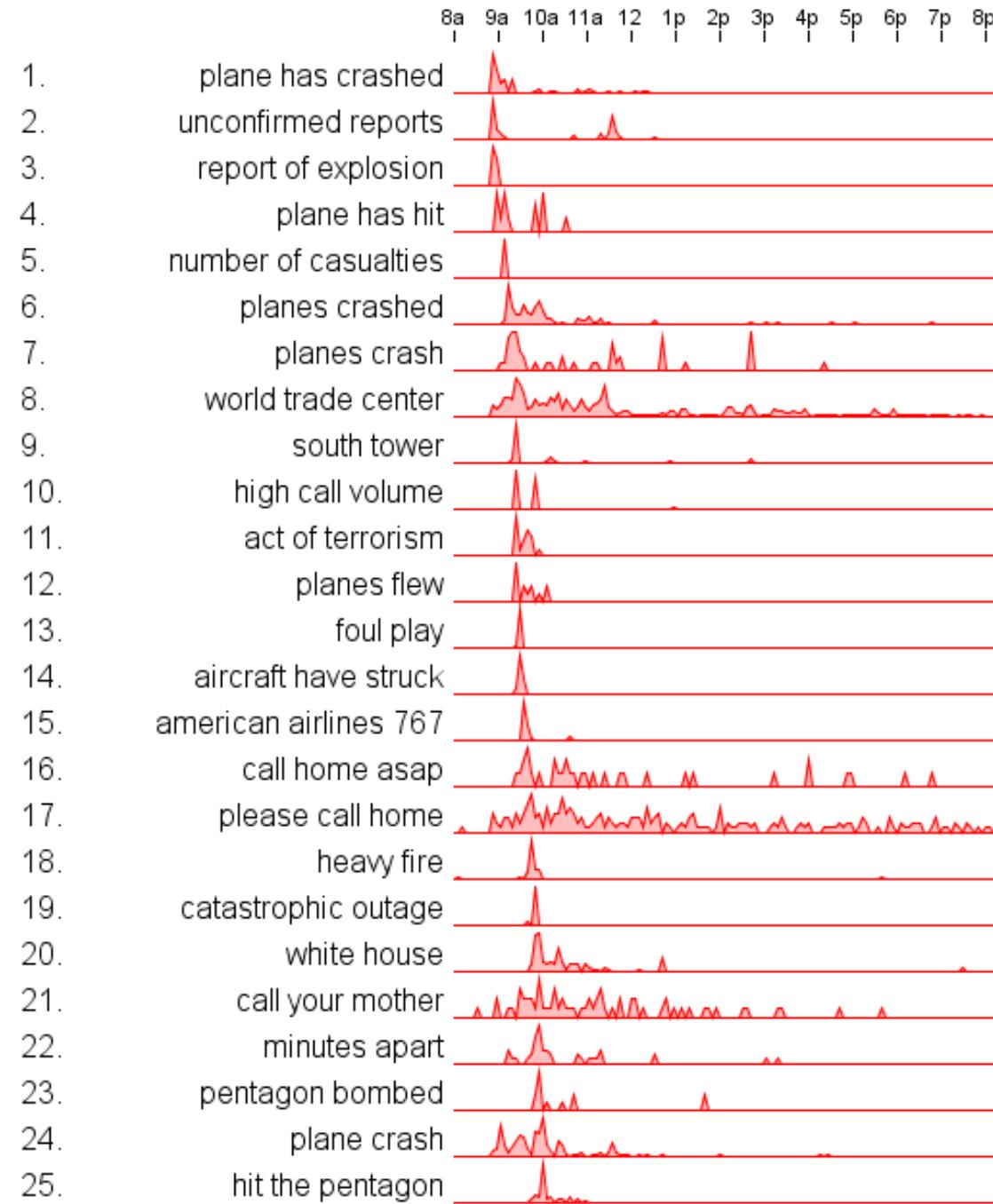
Top 10 ...

Posts with Comments	Commenters	Comments by Length	Words		
Poll on Last Visible Cell	313	Chandoo	1393	Stef@N on 22Feb10	900
Excel Conditional Formatting	192	Jon Peltier	228	Gert-Jan on 4Apr10	740
Paste Special Tricks	107	Hui...	186	Daniel Ferry on 18Jun09	704
Dynamic Excel Charts	101	Jeff Weir	148	Chandoo on 21Jun09	700
VLOOKUP Tutorial	96	Robert	138	Jeff Weir on 9Jul09	641
Excel Downloads	94	Jp	62	Jeff Weir on 13May09	626
Excel Mouse Tricks	90	Rick Rothstein (Mvp - Excel)	60	Abdul on 8Jul08	606
Chandoo.org Startup Story	89	Martin	58	Chandoo on 17May09	572
Excel 2010 Review	88	Daniel Ferry	54	Yivek on 30Aug08	561
KPI Dashboards	87	Dan L	53	Jeff Weir on 17Jul09	530

Call home
breaking news
New York
World Trade Center
Emergency services
Please call

New York City

“Perhaps a more useful view of the data is provided by this set of timeline graphs.”



Questions?

UNIVERSITY OF
WESTMINSTER