

GRAPHIC DESIGN

MPA 635: Data Visualization

September 11, 2018

PLAN FOR TODAY

Truth, beauty, stories, design

Technical details

CRAP

**TRUTH, BEAUTY,
STORIES, DESIGN**



Laura Seay 

@texasinafrica

Following



Finish college, kids.

Justin Hendrix  @justinhendrix

"I found Zuckerberg straining, not always coherently, to grasp problems for which he was plainly unprepared... including the meaning of truth, the limits of free speech, and the origins of violence." -@eosnos with a major new profile of Mark Zuckerberg: [newyorker.com/magazine/2018/...](http://newyorker.com/magazine/2018/)

Show this thread

6:08 AM - 10 Sep 2018

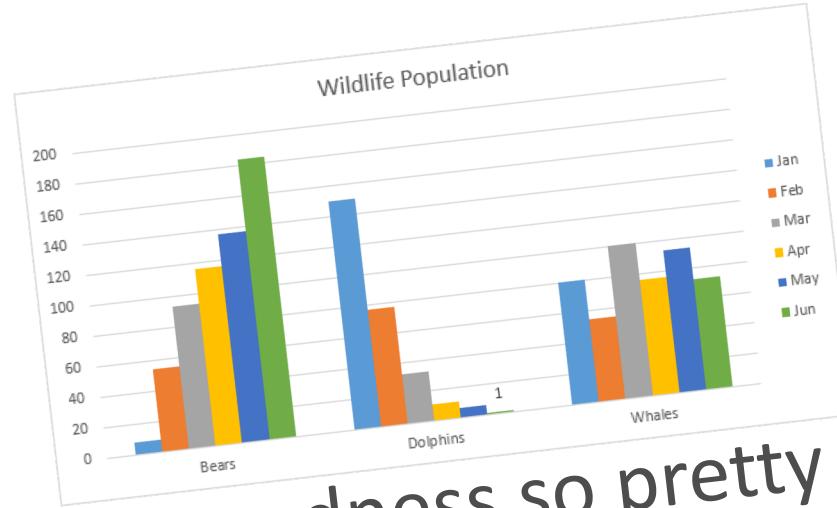
SOURCES OF TRUTH

Revelation

Science

Humanities

WHY SHOULD WE EVEN CARE ABOUT DESIGN?



omgoodness so pretty

Everyone uses Comic Sans, so it must be good

I don't need to waste time with design.
My data and findings will speak for themselves.

How great is Times New Roman, amirite?

Plus, Avatar uses Papyrus as the subtitle font, so it's definitely great

CONTENT + FORM

Art is how we translate
core, essential **content**
to different **forms**
for specific **audiences**

CONTENT + FORM

Stories are how we translate
core, essential **content**
to different **forms**
for specific **audiences**

STORIES

A need to tell and hear stories is essential to the species *Homo sapiens*—second in necessity apparently after nourishment and before love and shelter

Reynolds Price, from *A Palpable God*

BEAUTY, STORIES, & TRUTH

Truth comes from **aesthetic** combination of content and form

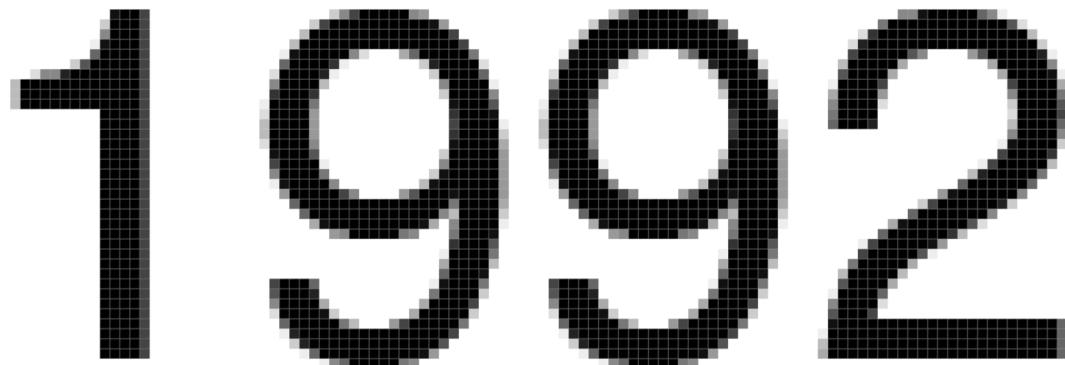
Facts require
beauty to be true

There are aesthetic principles we can follow to create beauty—and truth

TECHNICAL DETAILS

IMAGE TYPES

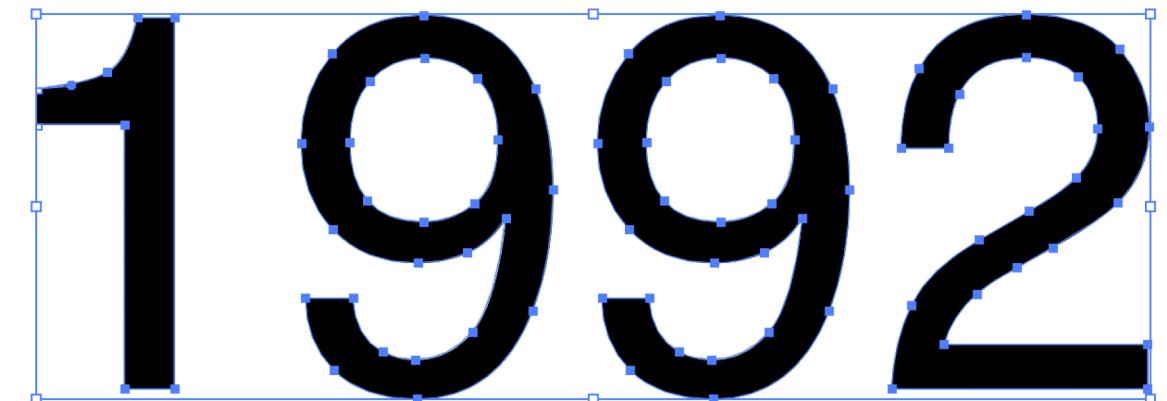
Bitmaps



JPEG: Photographs

PNG/GIF: Images with limited colors

Vectors



PDF (or EPS): Anything vector based

SVG: Vectors online

VECTORS

PDF

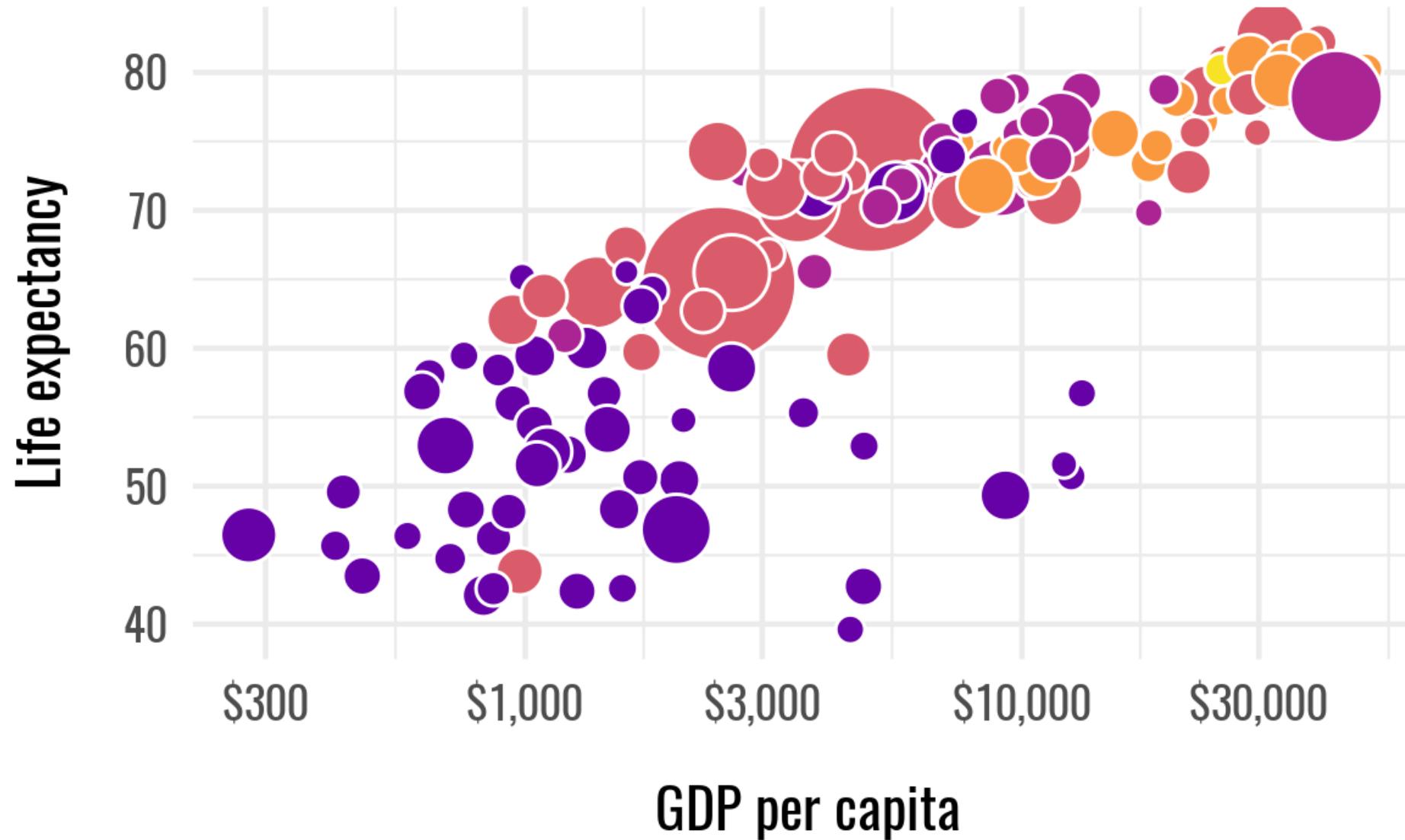
SVG

BITMAPS

PNG

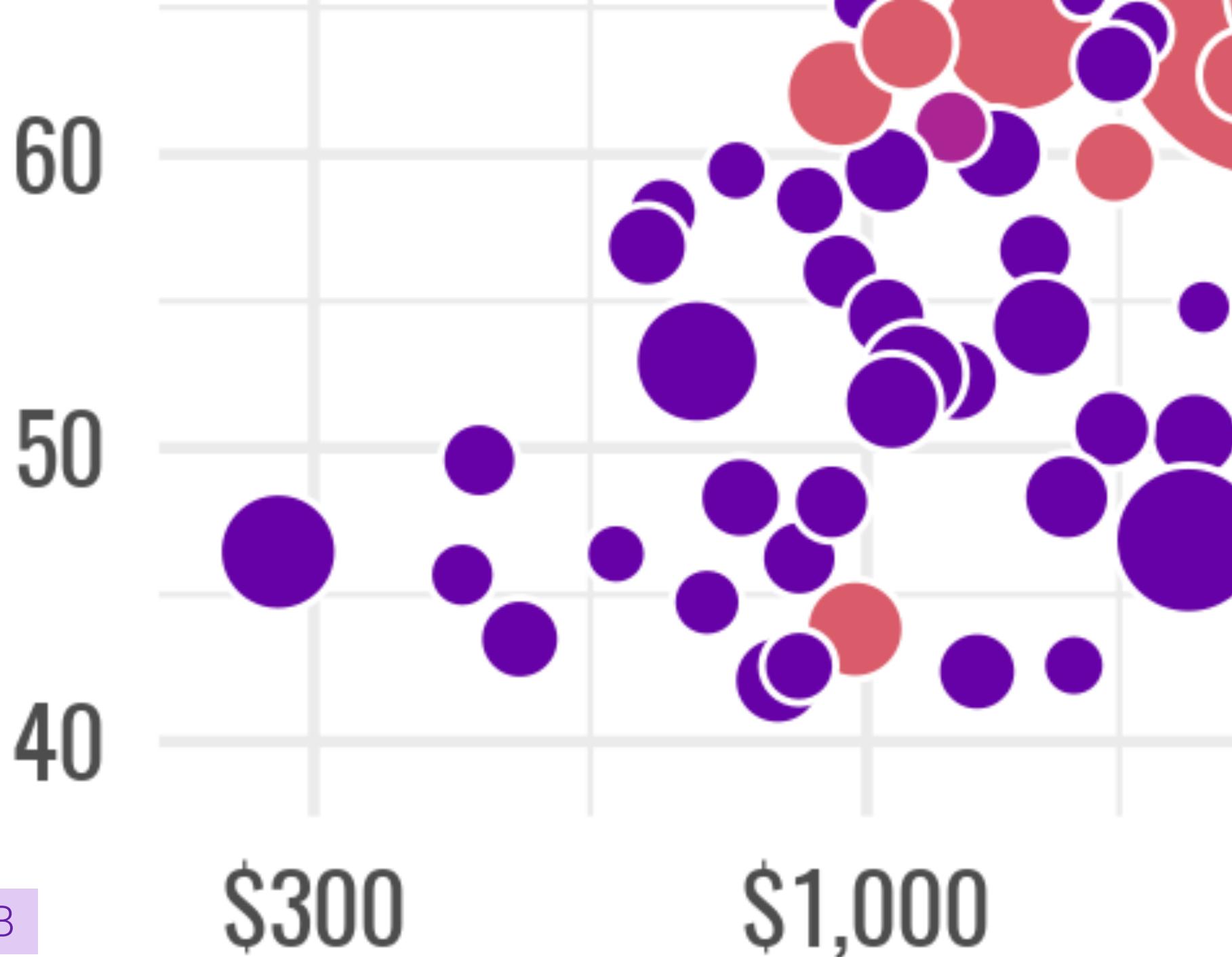
JPEG

Global health and wealth in 2007



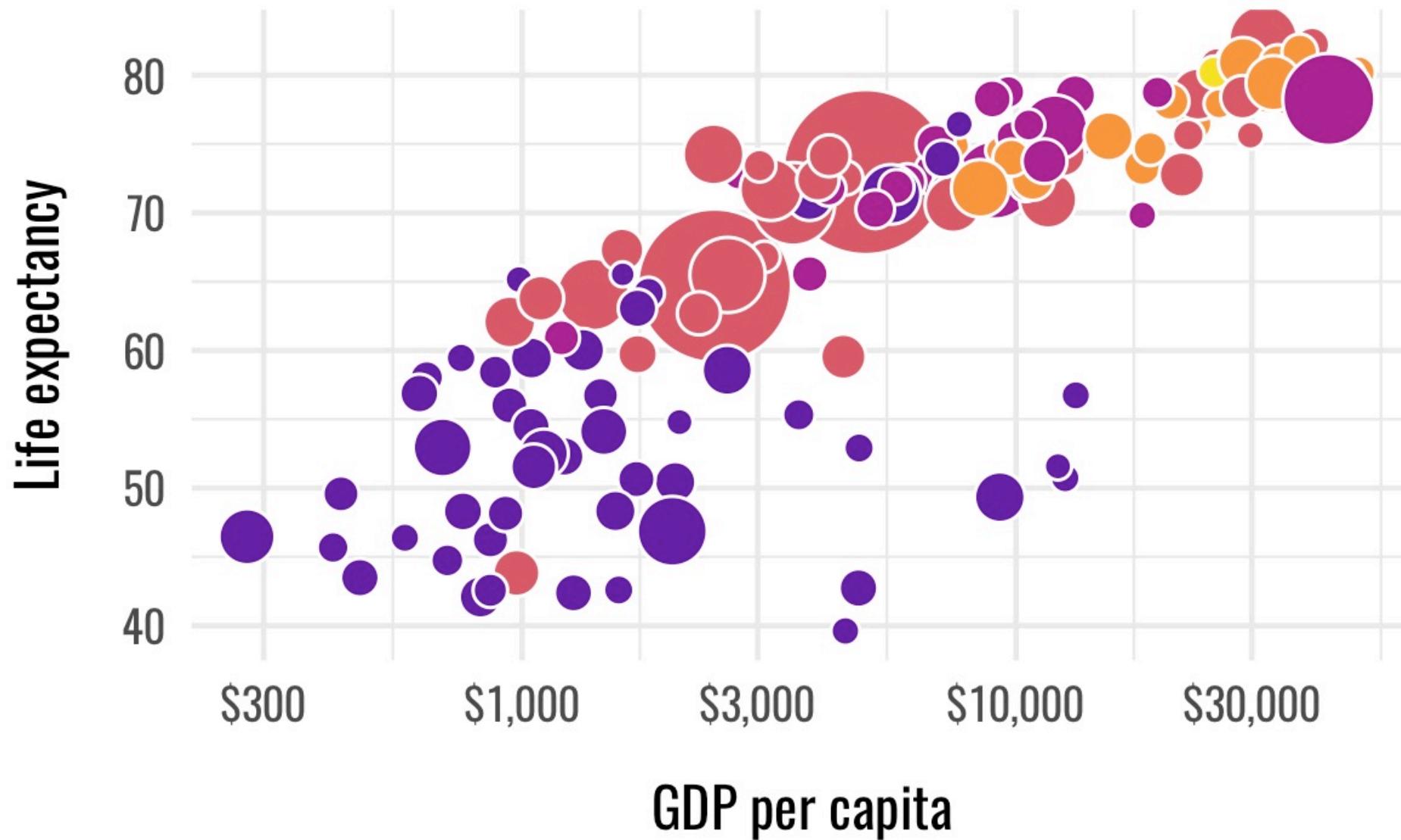
PNG • 130 KB

Source: Hans Rosling and the Gapminder Project



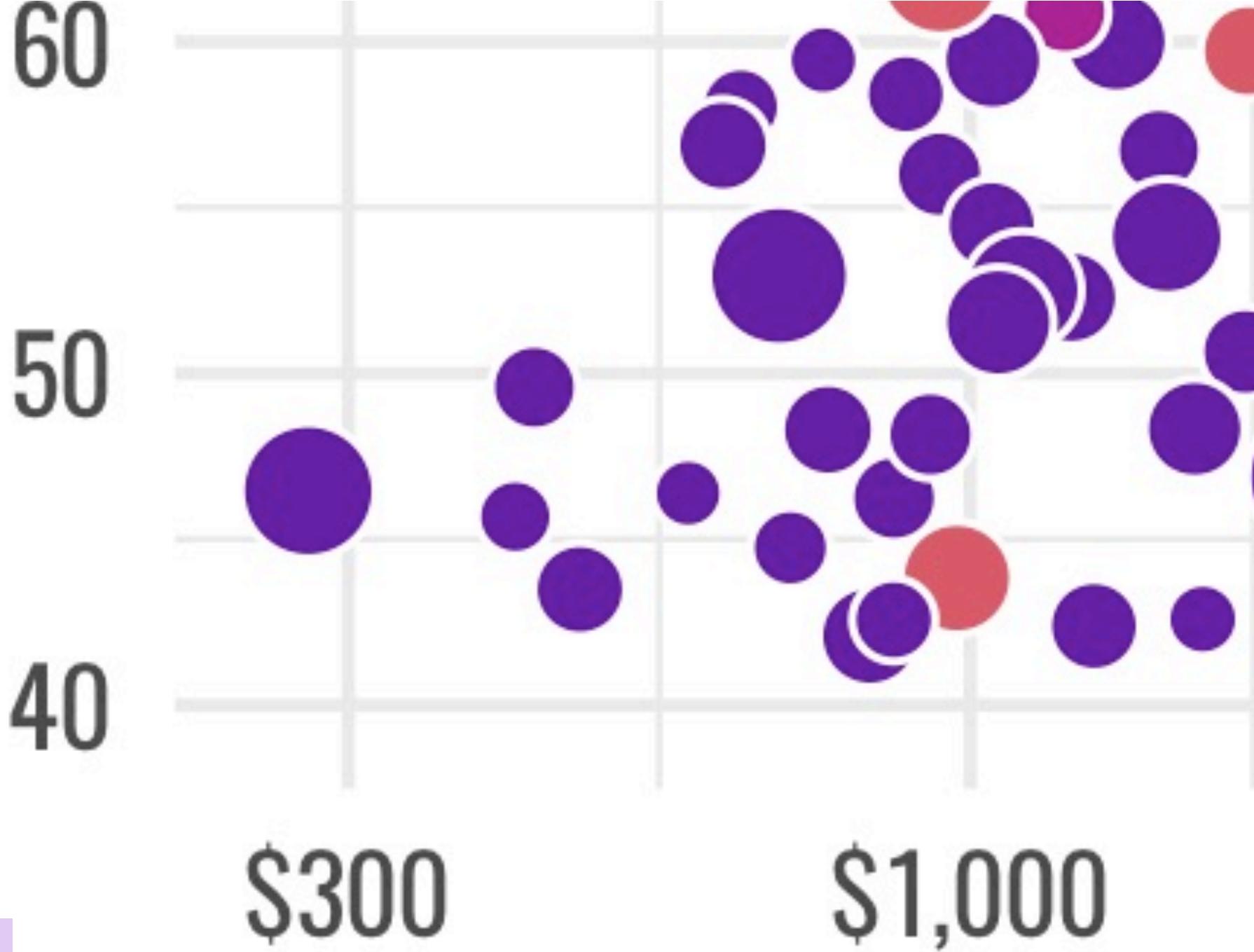
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Global health and wealth in 2007

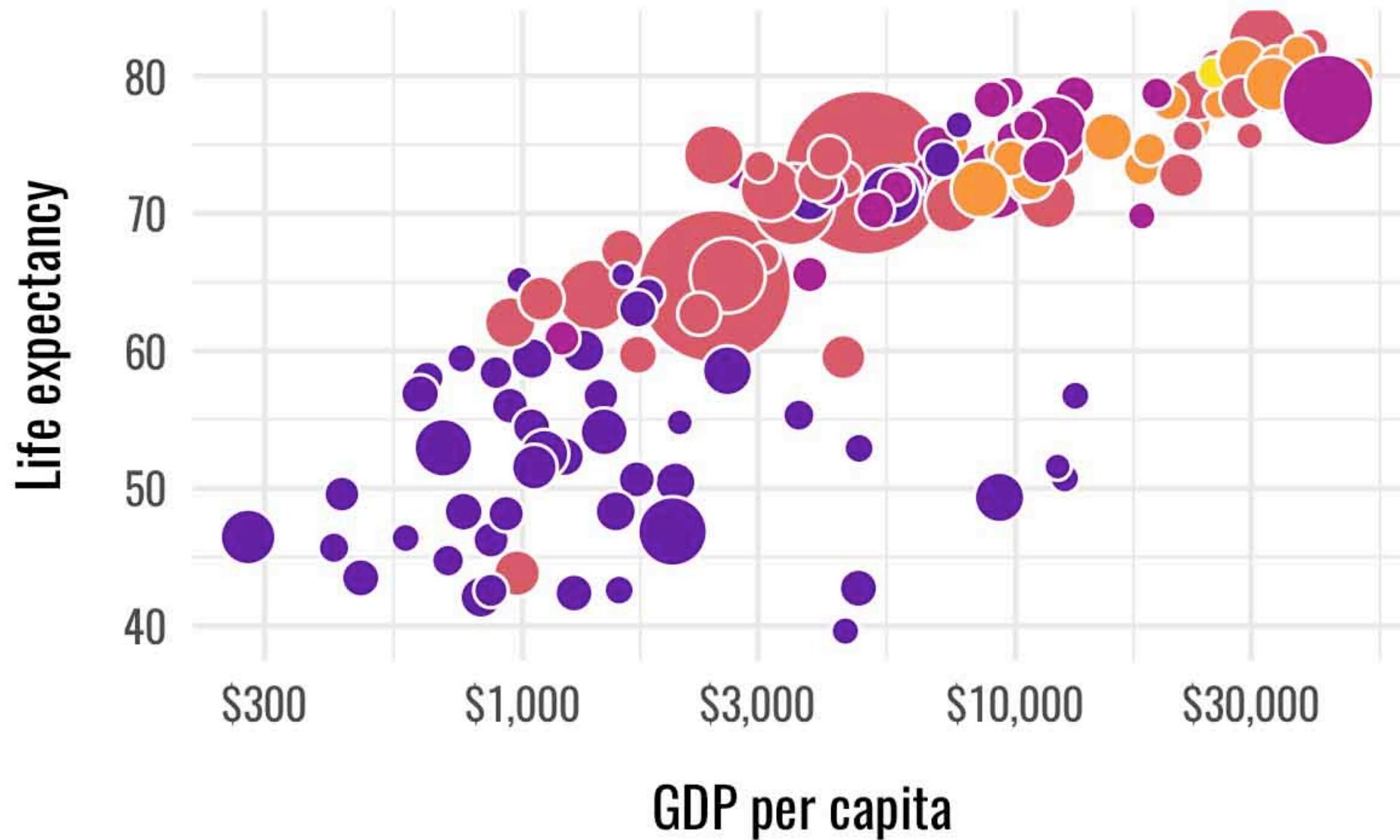


JPG • 75% quality • 161 KB

Source: Hans Rosling and the Gapminder Project



Global health and wealth in 2007



60

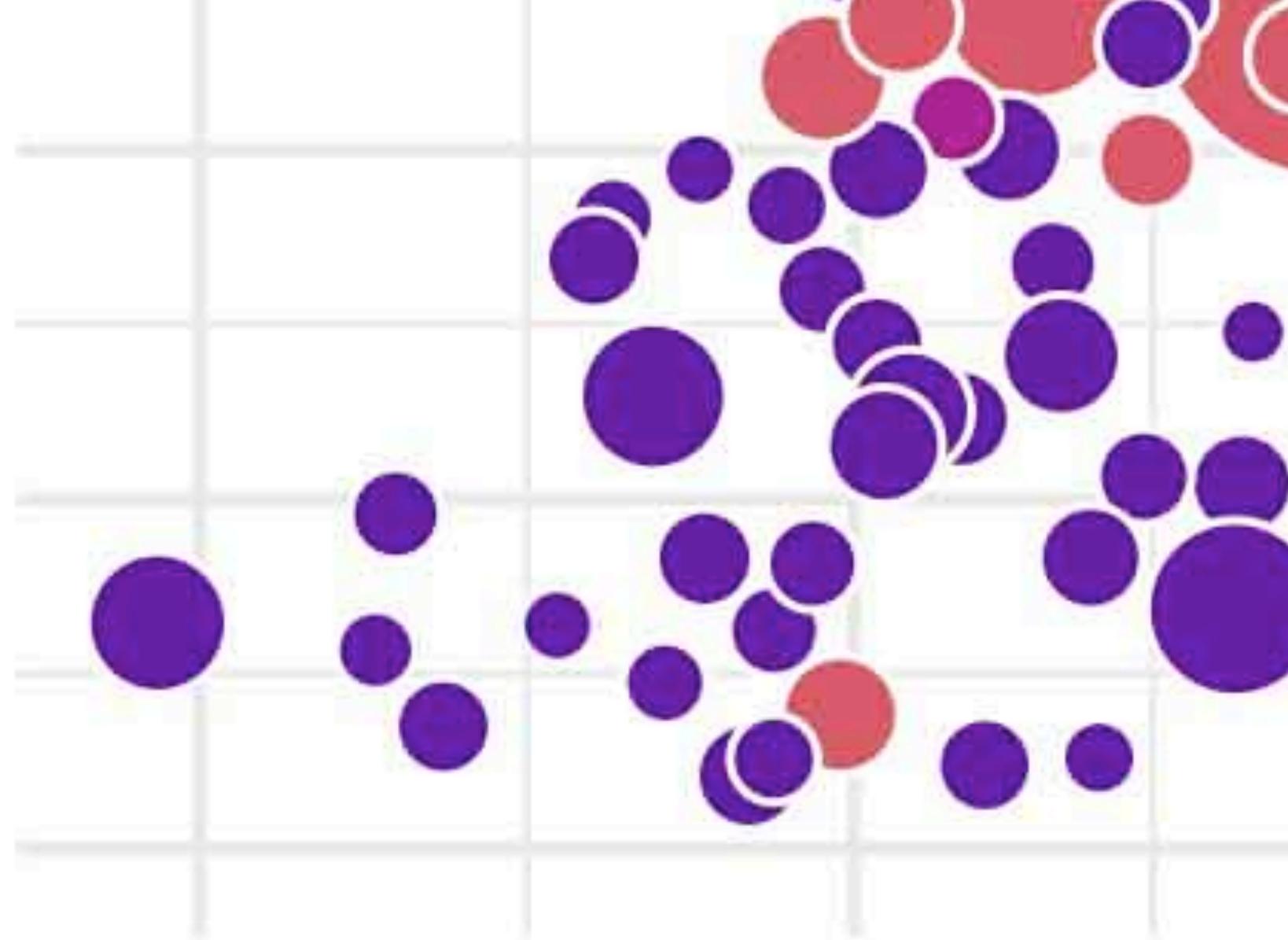
50

40

\$200

\$1,000

JPG • 10% quality × 2 • 88 KB





ONE DOES NOT SIMPLY

USE HIGH LEVEL OF JPEG COMPRESSION

THE GREAT THING ABOUT
DIGITAL DATA IS THAT
IT NEVER DEGRADES.



HARD DRIVES FAIL,
OF COURSE, BUT THEIR
BITS CAN BE COPIED
FOREVER WITHOUT LOSS.



FILM DEGRADES, PRINT
CRACKS, BUT A COPY OF A
CENTURY-OLD DATA FILE IS
IDENTICAL TO THE ORIGINAL.



IF HUMANITY HAS A
PERMANENT RECORD,
WE ARE THE FIRST
GENERATION IN IT.



IN DEFENSE OF THE JPEG

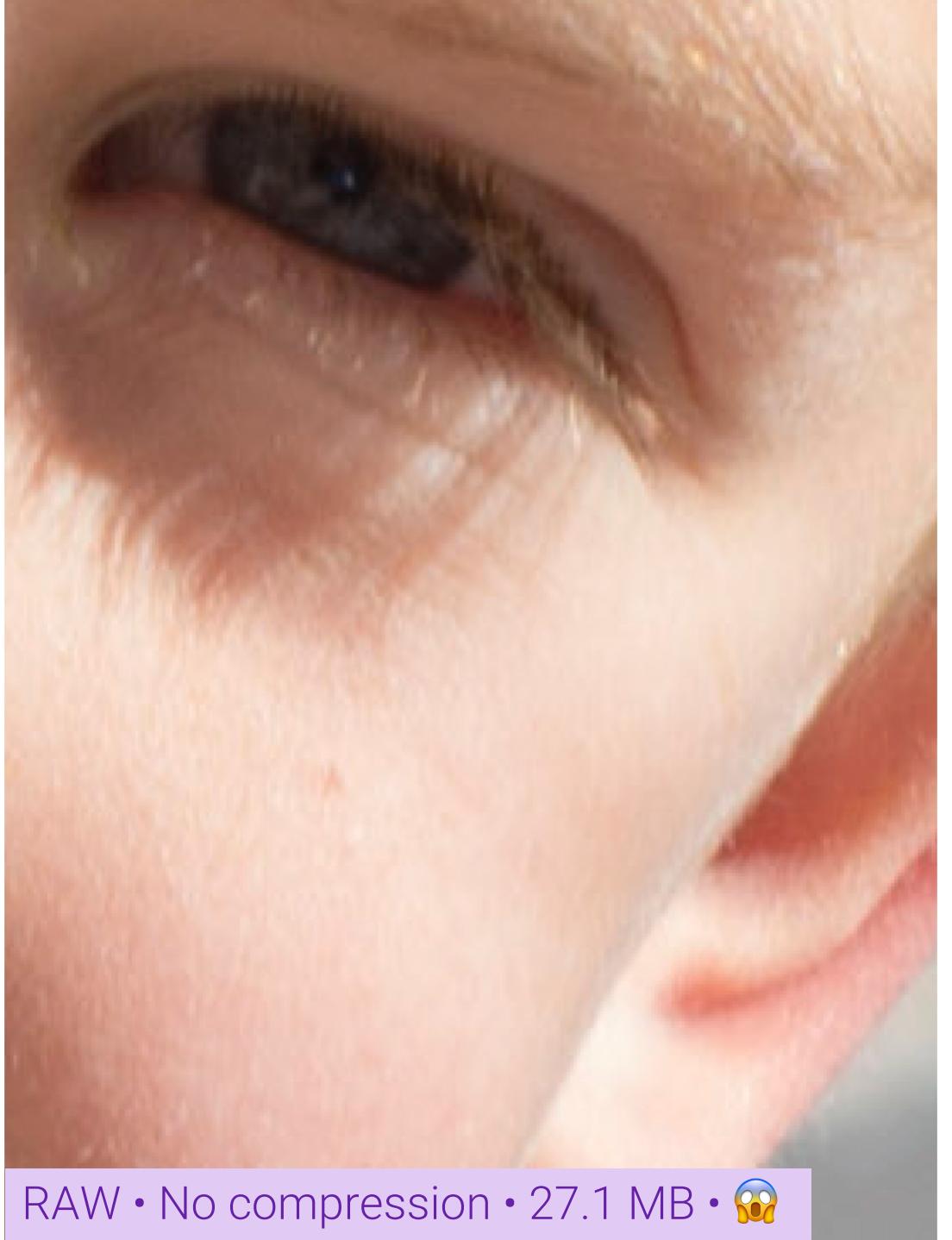


RAW • No compression • 27.1 MB • 😱

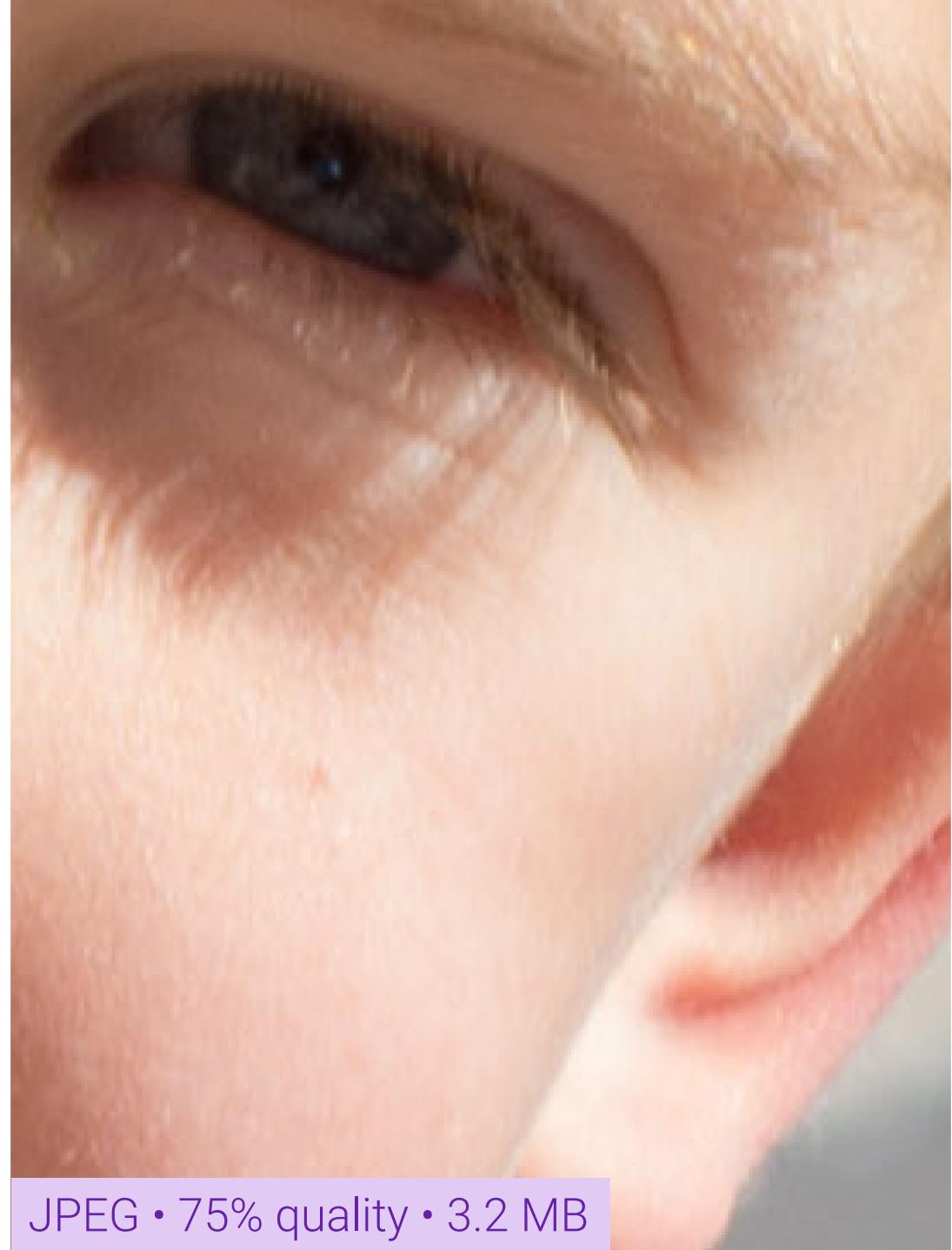
JPEG • 75% quality • 3.2 MB

JPEG • 10% quality • 654 KB

PNG • 32.9 MB • 😱



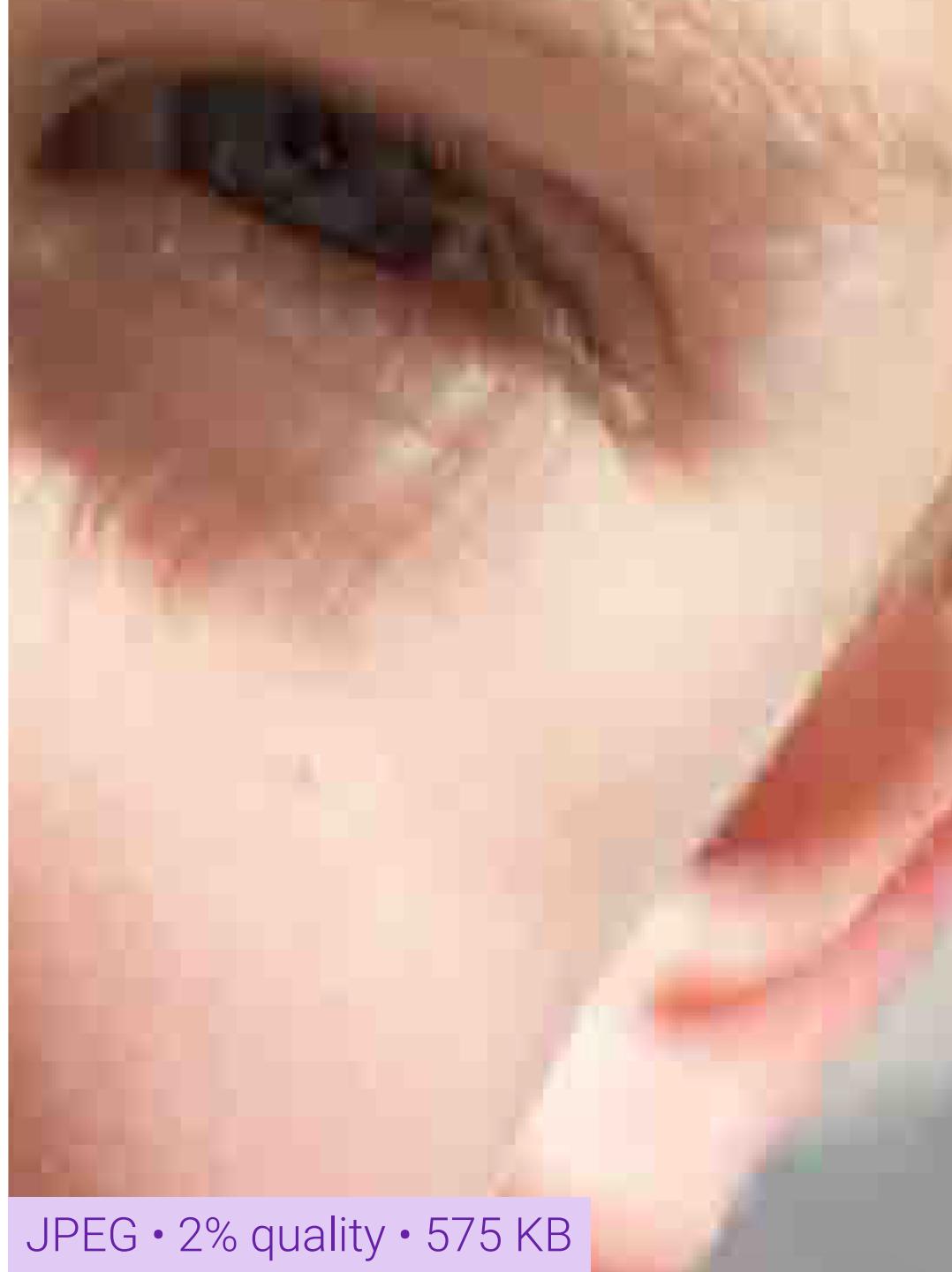
RAW • No compression • 27.1 MB • 😲



JPEG • 75% quality • 3.2 MB

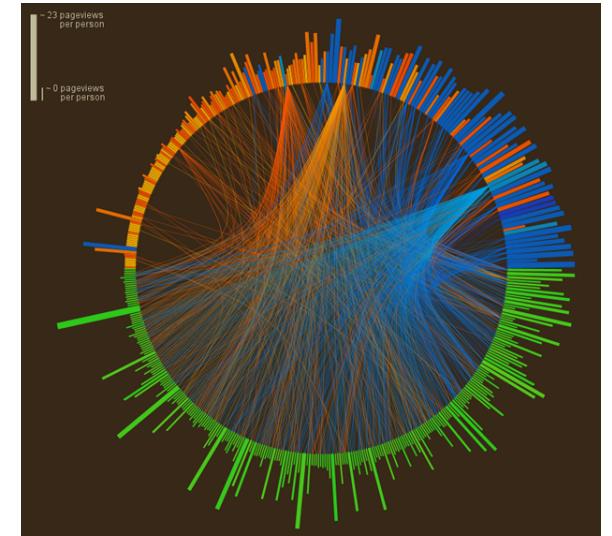
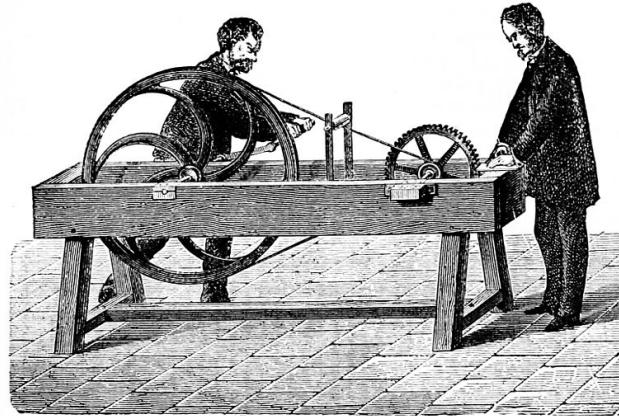
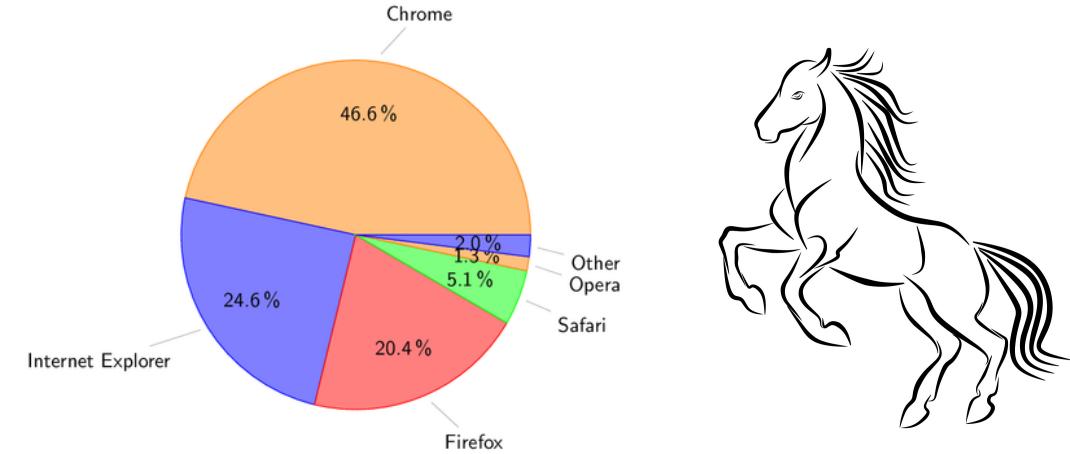


JPEG • 10% quality • 654 KB



JPEG • 2% quality • 575 KB

WHICH FORMAT SHOULD I USE & WHY?



WHAT PROGRAMS DO I USE?

Photoshop



Photos

Illustrator



Vectors

InDesign



Documents



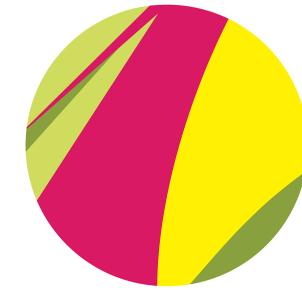
GIMP



Canva



Inkscape



Gravit Designer



Scribus

CRAP

PRINCIPLES OF DESIGN

"Good design is as much about having a good eye from birth as it is about learning and using principles and rules."

Katie Olson, MPA 635, Fall 2018

CONTRAST

“If two items are not exactly
the same, make them different.
Really different.”

Don’t be a wimp.

TYPOGRAPHIC CONTRAST

Serif

Lorem ipsum dolor sit amet

Sans Serif

Lorem ipsum dolor sit amet

Slab Serif

Lorem ipsum dolor sit amet

Script

Lorem ipsum dolor sit amet

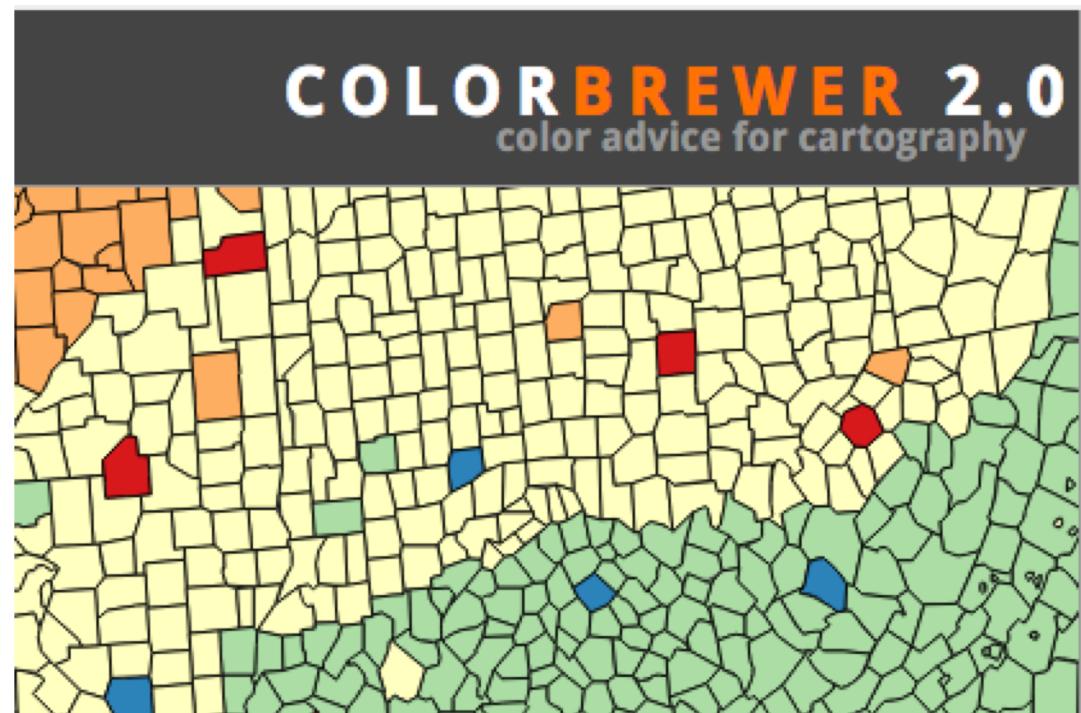
Decorative

Lorem ipsum dolor sit amet

COLOR CONTRAST



<http://color.adobe.com>



<http://colorbrewer2.org/>

James Clifton Thomas

123 Penny Lane
Portland, OR 97211
(888) 555-1212

**PROFILE:**

A multi-talented, hard-working young man, easy to get along with, dependable, and joyful.

ACCOMPLISHMENTS:

January 2006-present Web designer and developer, working with a professional team of creatives in Portland.

May 2000-January 2006 Pocket Full of Posies Day Care Center. Changed diapers, taught magic and painting, wiped noses, read books to and danced with babies and toddlers. Also coordinated schedules, hired other teachers, and developed programs for children.

Summer 2006 Updated the best-selling book, *The Non-Designer's Web Book* with my mom (Robin Williams) and John Tollett.

1997-2000 Developed and led a ska band called Lead Veins. Designed the web site and coordinated a national tour.

EDUCATION:

2002-2005 Pacific Northwest College of Art, Portland, Oregon: B.A. in Printmaking

1999-2000 Santa Rosa High School, Santa Rosa, California

1997-1998 Santa Fe High School, Santa Fe, New Mexico

1982-1986 Poppy Creek Daycare Center, Santa Rosa, California

PROFESSIONAL AFFILIATIONS:

Grand National Monotype Club, Executive Secretary, 2000-2002

Jerks of Invention, Musicians of Portland, President, 1999-present

Local Organization of Children of Robin Williams, 1982-present

HOBBIES:

Snowboarding, skateboarding, tap dancing, cooking, magic, music (trumpet, drums, vocals, bass guitar), portrait drawing

References available on request.

James Clifton Thomas

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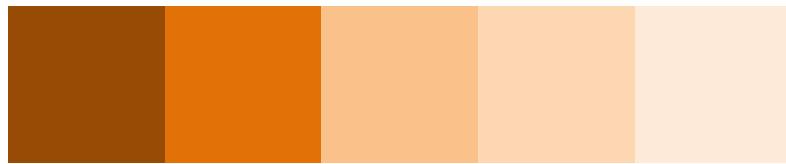
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COMPARE THE CONTRAST



We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility...

Article I.

Section 1.

All legislative Powers herein granted shall be vested in a Congress of the United States, which shall consist of a Senate and House of Representatives.

We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility...

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REPETITION

“Repeat some aspect
of the design throughout
the entire piece.”

Jamba Whirl

DISCOVER MORE

• FRESH SQUEEZED •

Start The Day

Delicious!

Bored with breakfast?
Skipping it altogether?
Wake up to a new way to start your day:

Jamba Juice!

Jamba is the perfect place to pick up that all-important morning meal. First, our fruit-filled products are overflowing with vital vitamins and minerals to give your body the breakfast boost it needs. Even better, you can grab them on the go—and they taste great, too!

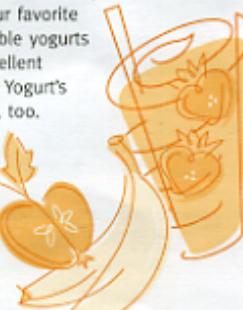
New Fantastic Functional Smoothies. Still sleepy? Get Up & Mango™! This new energy smoothie blends brilliant mangos and perky peaches with soymilk, nonfat frozen yogurt and our special Energy Boost™—a potent combination of ginseng ginkgo biloba, and other fatigue-fighting herbs, as well as four energy-essential B vitamins. Get Up & Mango™ will get you moving—and give you plenty of potassium, calcium and vitamins C and A, as well as 15 grams of protein*.

Want more protein? Our Blue Banana Blast™ smoothie is bursting with blueberries and bananas, plus soymilk, nonfat plain yogurt, nonfat frozen yogurt, and Jamba's Protein Boost™. You get 22 grams of protein, plus lots of dietary fiber, calcium and vitamin D. Drink up!

New Yummy Yogurt Blends. These sweet and creamy creations blend nonfat plain yogurt and soymilk with your favorite fresh fruits and fruit juices. These drinkable yogurts are a good source of protein and an excellent source of calcium and vitamins C and D. Yogurt's "friendly bacteria" helps aid in digestion, too. Choose from Sunrise Strawberry™, Bright Eyed & Blueberry™ and Pick-Me-Up Peach™.

Tomorrow morning, don't let the first meal of the day put you to sleep! Go to Jamba—and give yourself a fresh start!

* Nutritional information based on Original size smoothie.



Visit jambajuice.com for a complete list of store locations!

• FUEL FACTS •

Rise and Shine With Breakfast

Your mother was right: You shouldn't skip breakfast.

But eating any old morning meal won't do. To start the day right, you need to feed your body the vitamins and nutrients it craves.

"You don't want to waste calories," explains Suzanne Havala Hobbs, a registered dietitian and member of Jamba's Wellness Advisory Board. "If you load up on empty calories for breakfast, by the end of the day, you're more likely to have missed some important nutrients."

A nutritious breakfast offers a bounty of benefits. For one, you'll have more energy and will probably perform better at work or school. Why? When you wake up in the morning, your body's energy stores are low. After all, you haven't eaten anything in eight to 12 hours. If you don't refuel with breakfast, you'll probably be starved by lunch—and more likely to overeat and make impulsive food choices.

(Continued on back page)

• BEHIND THE BLENDER •

The Secret To Jamba Smoothies

Ever wonder why Jamba smoothies taste so terrific? The secret is in the fruit—and how we pick it.

It starts in the fields. Jamba's suppliers pick produce at the peak of perfection, and within hours, that fruit is "individually quick frozen" to lock in its fresh flavor, juices and nutrients. Soon, it's on its way to Jamba stores, ready to be mixed into one of our splendid smoothies!

Of course, not all fruits are created equal. And when Jamba searches the globe for the best bananas, berries, peaches and more, we're pretty hard to please. We're not only picky about the fruit itself—we insist on a specific variety of strawberry, and each one must adhere to our strict standards for color and flavor—we're also choosy about the people who supply it.

Our suppliers must meet a long list of stringent standards for ensuring quality and food safety. We require vendors to detail all of their quality and safety processes and pass a rigorous third-party audit before we'll even agree to taste-test their fruit. In addition, Jamba officials visit supplier facilities and continue reviewing processes even after a contract is signed. Many of our vendors have been our trusted partners for years.

Why all the fuss? Jamba is committed to providing only the highest quality products to our customers. After all, the better the fruit, the better the smoothie!

FRESH CROP Opening This Fall!

Rancho Cucamonga, California
Ft. Lauderdale, Florida
Charlotte, North Carolina
Honolulu, Hawaii
Fifth Avenue, New York
Orland Park, Illinois

• JAMBATUDE •

Spreading The Jamba Spirit

Jamba General Manager Ray Sterling is a big believer in supporting the local community. So when Ray, who manages the Jamba store at 9th and Irving streets in San Francisco, saw that the 2004 AIDS Walk San Francisco fundraising event was approaching, he sprang into action.

Ray volunteered to captain a team of walkers and, with the help of the Jamba's Northern California marketing department, quickly spread the word about the event to all the stores in Northern California. His goal: Raise \$10,000 for AIDS Walk, which benefits the San Francisco AIDS Foundation and other organizations that provide services, support and education to AIDS patients.

His enthusiasm turned out to be contagious. On July 18, the day of the walk, he found himself leading a team of more than 40 people, including Jamba team members, customers and friends and family. Two team members donned BananaMan costumes, and the rest of the team sported bright yellow Jamba t-shirts as they walked 6.2 miles through Golden Gate Park. Total money raised: \$16,019.

"I think it's so important to support the local community," Ray explains. "This is a big event in San Francisco, and the money goes to help people and children right here. I felt it was essential for Jamba to be a part of it."

The AIDS Walk isn't the only community project Ray has been involved with since joining Jamba two-and-a-half years ago. He also works with a local chapter of The Arc, an organization that helps people with developmental disabilities. Through The Arc, Ray has hired several people with disabilities to work for him at Jamba. For his efforts, he was recognized as an "Employer of the Year" last year by the San Francisco Mayor's Committee for Employment of Persons with Disabilities.

"Ray exemplifies everything that Jamba stands for," says Gail DiSantis, a Jamba District Manager for San Francisco and Ray's boss. "He's friendly, fun and energetic, and when it comes to helping the community, he doesn't just talk. He's a doer."

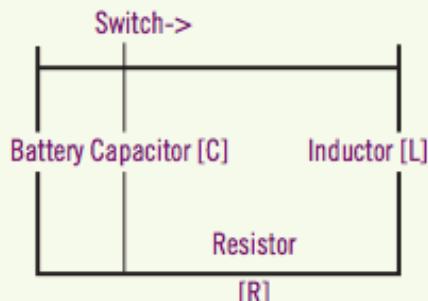


ALIGNMENT

“Every item should have a visual connection with something else on the page.”

Example 6: Value of a resistor in an electrical circuit.

Find the value of a resistor in an electrical circuit which will dissipate the charge to 1 percent of its original value within one twentieth of a second after the switch is closed.

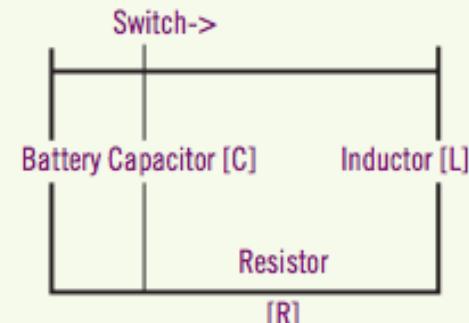


q0=	9	volts
q(t)=	0.09	volts
t=	0.05	seconds
L=	8	henrys
C=	0.0001	farads
R=	300	ohms
q(t)=	0.253889	

1/[L*C_]	1250
[R_/(2*L)]^2	351.5625
SQRT(B15-B16)	29.973947
COS(T*B17)	0.07203653
-R_*T/(2*L)	-0.9375
Q0+EXP (B 19)	3.52445064

Example 6: Value of a resistor in an electrical circuit.

Find the value of a resistor in an electrical circuit which will dissipate the charge to 1 percent of its original value within one twentieth of a second after the switch is closed.



q0=	9	volts
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t=	0.05	seconds
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R=	300	ohms
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-R_*T/(2*L)	-0.9375
Q0+EXP (B 19)	3.52445064

Fewer/Less

The Controversy: Some usage dictionaries state that fewer and less can be used synonymously while others say that there is a distinct difference in the usage between the two. Fewer cannot be used in place of less, but can less be used in place of fewer?

The Traditional Rule: Fewer refers to number among things that are counted, or readily distinguishable units (fewer people, ships, houses.) Less refers to quantity or amount among things that are measured (less sugar, time, energy).

History: The rule first originated in 1770 as a rule on less, "this word is commonly used in speaking of a number; where fewer would do better. Essentially less has been used of countables in English just about as long as there has been a written English language. After about 900 years Robert Baker opined that fewer might be more elegant and proper. Almost every usage writer since Baker has followed Baker's lead, and generations of English teachers have swelled the chorus. "No fewer than a hundred appears to me not only more elegant than no less than a hundred, but strictly more proper." - Baker 1770

Consensus: A substantial majority of panel members advocates retaining this distinction between less and fewer. The general consensus favors the traditional rule that fewer refers to countable things while less refers to things measured, though strong forces are pushing against it.

Examples:

"However fewer and fewer writers observe it, so the distinction is becoming less and less." -Vermont Royster

"...Dudek's car has fewer than 600 miles on the odometer." - Rick Reilly

"...has never gained fewer than 1,222 yards in a season." -Rick Telander

"The odometer showed less than ten thousand miles." - E.L. Doctoerow

"I was never in Europe for less than fourteen months at a time." - James Thurber

not very important history

CONJUNCTIVE ADVERBS

CONJUNCTIVE ADVERBS

Conjunctive adverbs are adverbs that are used to connect two phrases or clauses. They can be used after a semicolon to connect two independent clauses or after a period to introduce a new sentence.

accordingly	furthermore	moreover
also	hence	nevertheless
anyhow	however	otherwise
anyway (informal)	incidentally	still
besides	indeed	then
consequently	likewise	therefore

The above words become conjunctive adverbs when they join two phrases or clauses together, providing a connection.

ADVERB: Though the danger was great, the policy was nevertheless adopted.

CONJUNCTIVE ADVERB: The action proposed by the government meant risking military action; nevertheless, public opinion supported it.

Style

- Formal Writing: conjunctive adverbs with three or four syllables are usually used in sentences of length and complexity.
- Informal Writing: shorter adverbs are more appropriate. They are better used as transitional devices between sentences than to connect clauses within a sentence.

Position

- Place the conjunctive adverb according to the word, phrase, or clause you want to emphasize. Place it at the beginning to emphasize what follows; place it in the middle (refer to example below) to emphasize what was previously mentioned.

EXAMPLE: The action proposed by the government meant risking military action; public opinion, however, supported it.

Punctuation

- Whether a conjunctive adverb introduces or comes inside of the second independent clause of a compound sentence, the two independent clauses are separated by a semicolon. In either position, it is sometimes but not always set off by a comma or commas.

Examples (of however)

- Susie is only one of five admitted last night. Two of these, however, are on medical wards.
- The man himself, however, was not greatly put out by the experience.
- (mid-sentence, after a clause) As time passed, however, I slowly began to see the originality of the resistance you offered.
- (at end of sentence) Lanzmann's tone over-generalized, however.

Bibliography

- Burchfield, R. W. *The New Fowler's Modern English Usage*, 2000.
- Ebbitt, Wilma R. and Daved R. Ebbitt. *Index to English*, 1990.
- Garner, Bryan A. *A Dictionary of Modern American Usage*, 1998.
- Webster's Dictionary of English Usage.

PROXIMITY

“Group related items together.”

Ralph Roister Doister

(717) 555-1212

Mermaid Tavern

916 Bread Street

London, NM

Mermaid Tavern

Ralph Roister Doister

916 Bread Street

London, NM

(717) 555-1212

CRAP REVIEW

Your Attitude is Your Life

Lessons from
raising three children
as a single mom

Robin Williams
October 9

Your Attitude is Your Life ▾

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raising three children
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Contrast

Repetition

Alignment

Proximity

CRAP PRACTICE

INTRO TO WEIGHTS FREE WORKSHOP

Thursdays 11:00

SFH 293 B

studentwellness.byu.edu/physical



@byustudentwellness

Come learn from the BYU Student Wellness Fitness Trainers about getting into shape. Get your questions answered and schedule an appointment to receive one-on-one training help to meet your fitness goals.

SAFE
KIDS
UTAH COUNTY

Connect with

**Safe Kids
Utah County**

on social media!

Learn child safety tips to better help you

#KeepKidsSafe.

Facebook: Safe Kids Utah County



Twitter: @SafeKids_UtCo



Instagram: @safekids_utco



Utah County
HEART UTAH
Health Department