Examples of Effective Dashboards

Part 1: Speeding up Dashboards

# Many ways to speed up dashboards, here are three:

1. Filtering data

2. Strategies for aggregating data
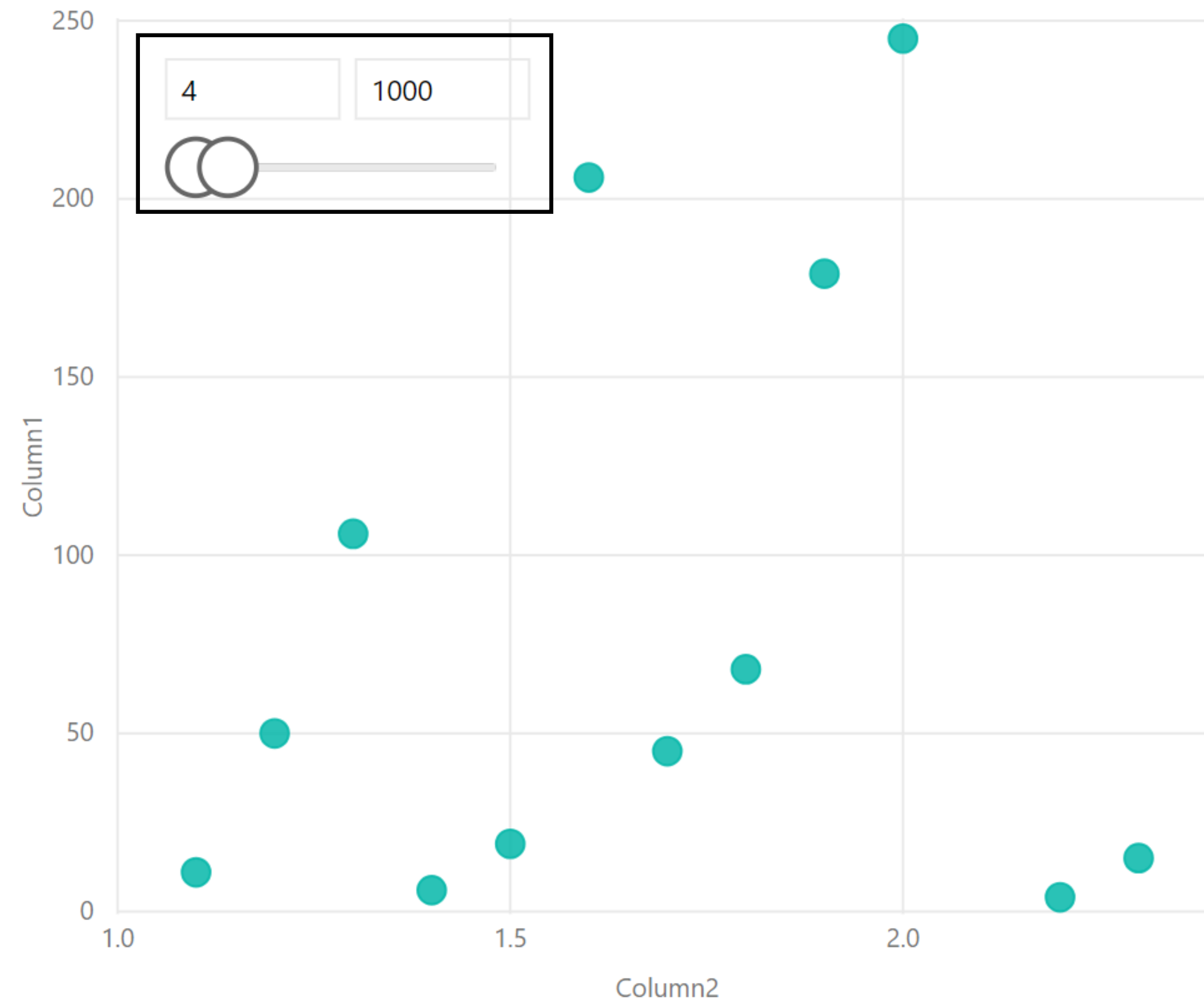
3. Precomputing data

Filtering Data

- Are you using all of your data ?
    - If not, set up an reproducible script to drop unused columns, and rows…
    - If yes, add components (dropdowns/slider) to less data is shown overall

- Remember: purpose-driven dashboards. Is all your data useful to answer your research question?
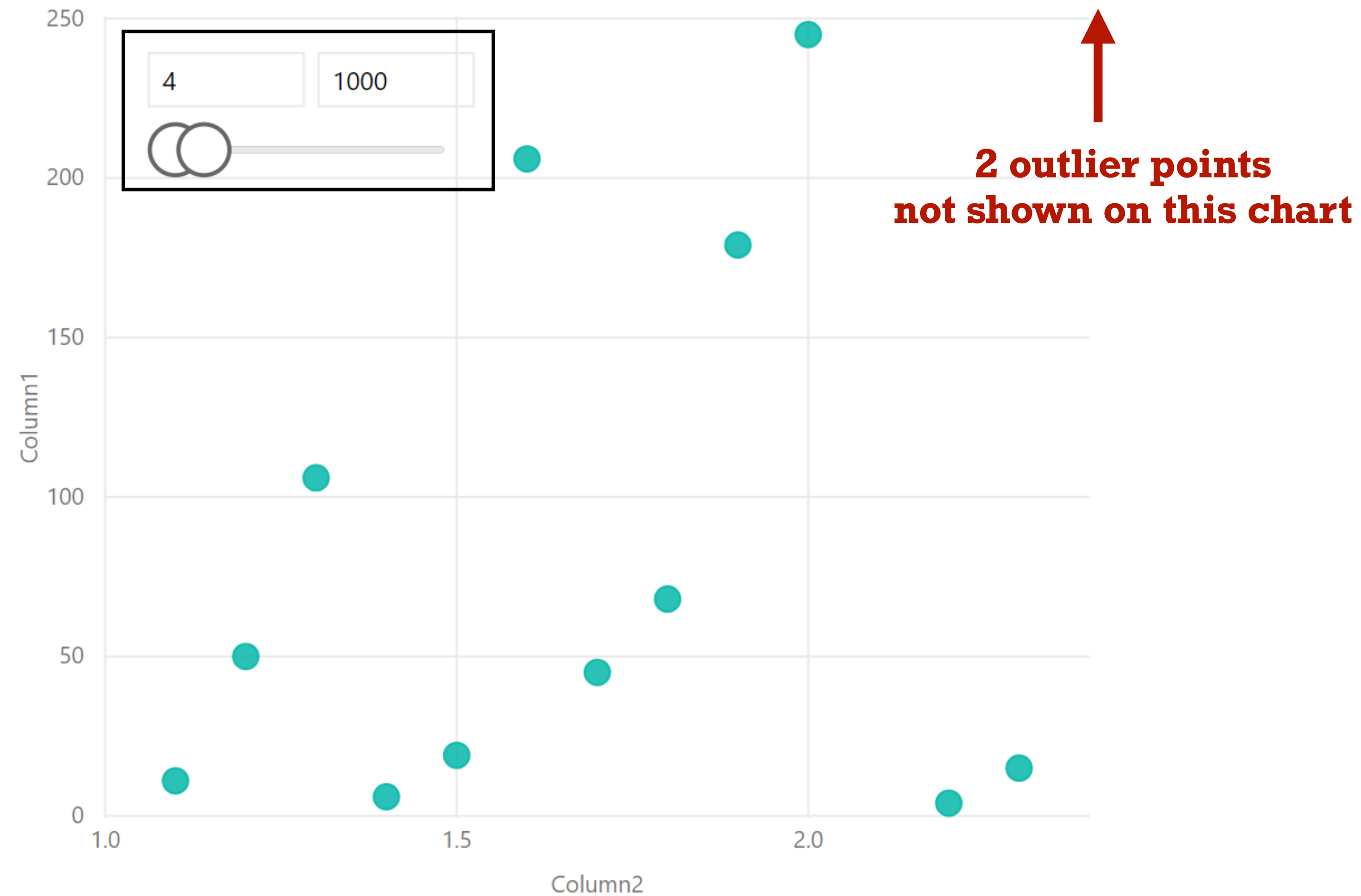
Dealing with outliers
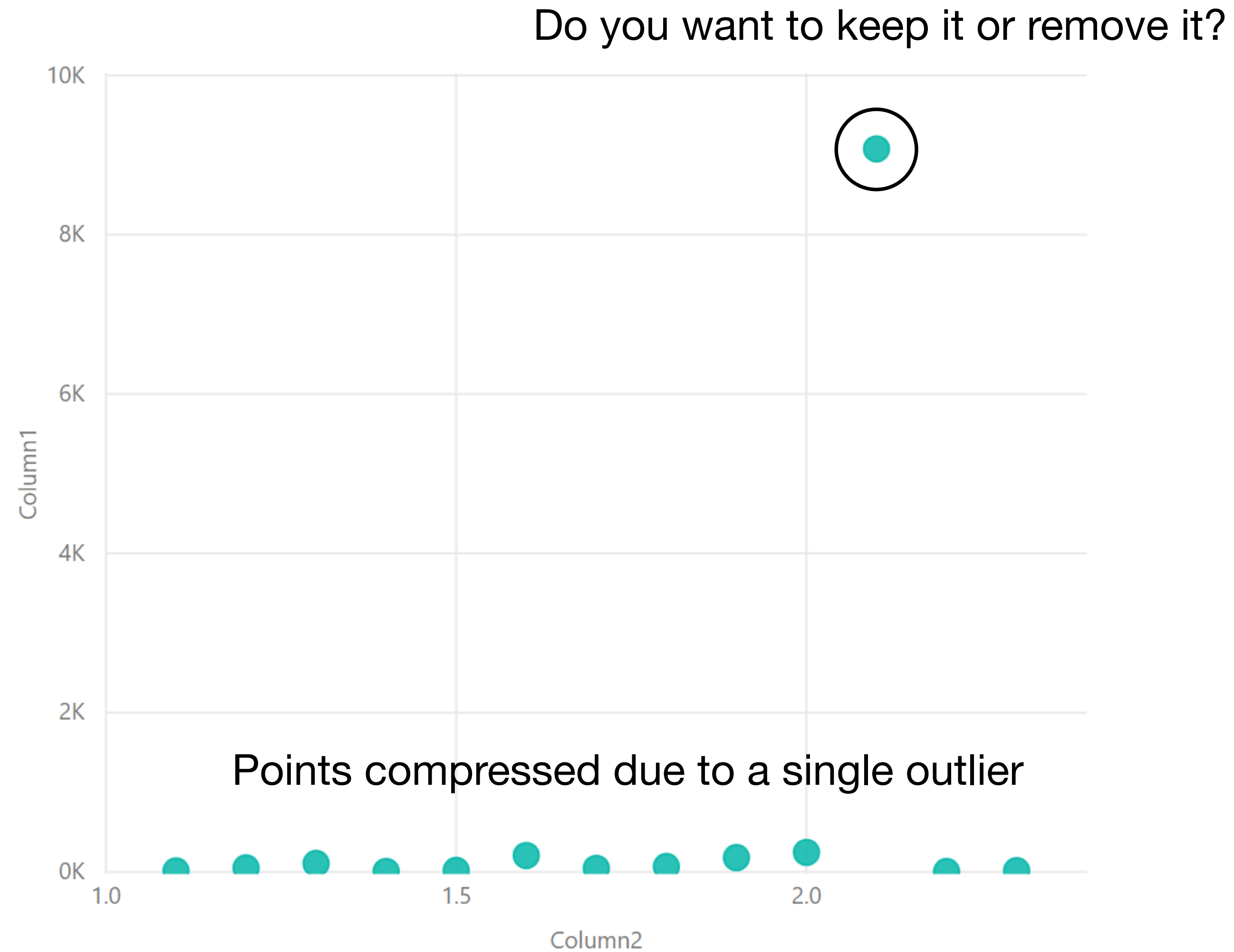
Do you want to keep it or remove it?

Points compressed due to a single outlier

Dealing with outliers

interactive filtering is another solution - *appropriate when want to remove outliers*

Dealing with outliers

interactive filtering is another solution - *appropriate when want to remove outliers*

**2 outlier points
not shown on this chart**

Dealing with outliers

log scale helps - *appropriate if you want to keep all points*
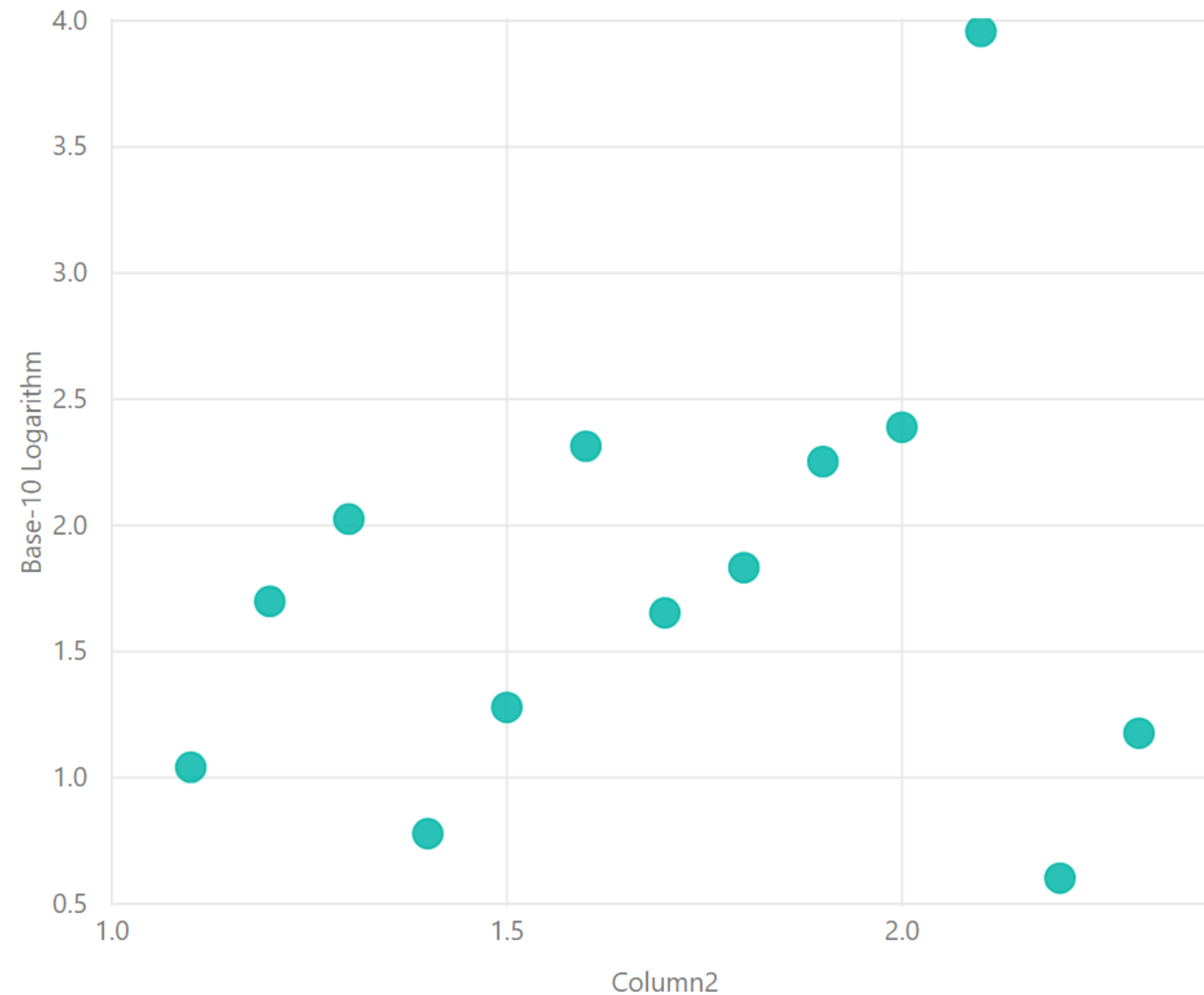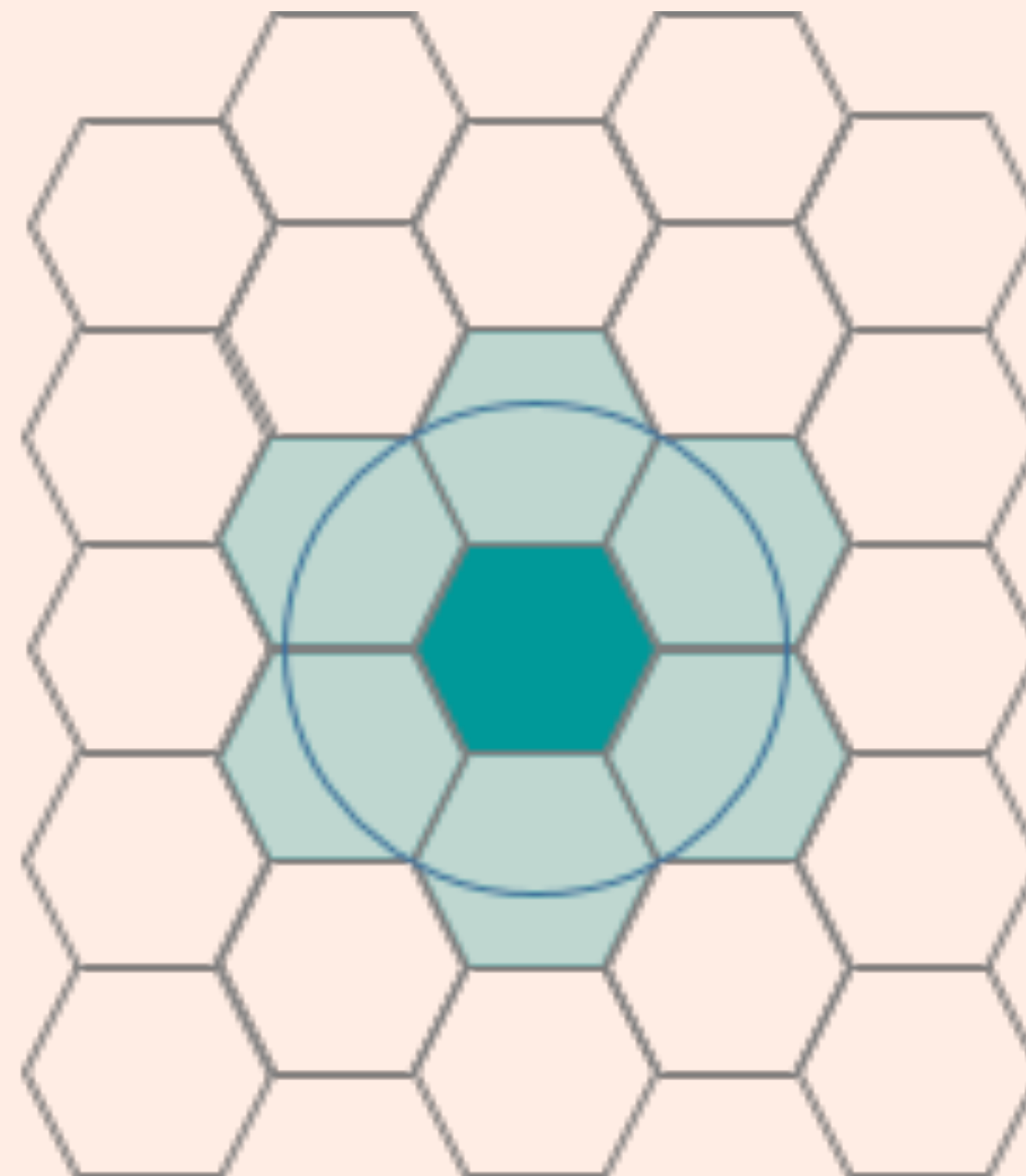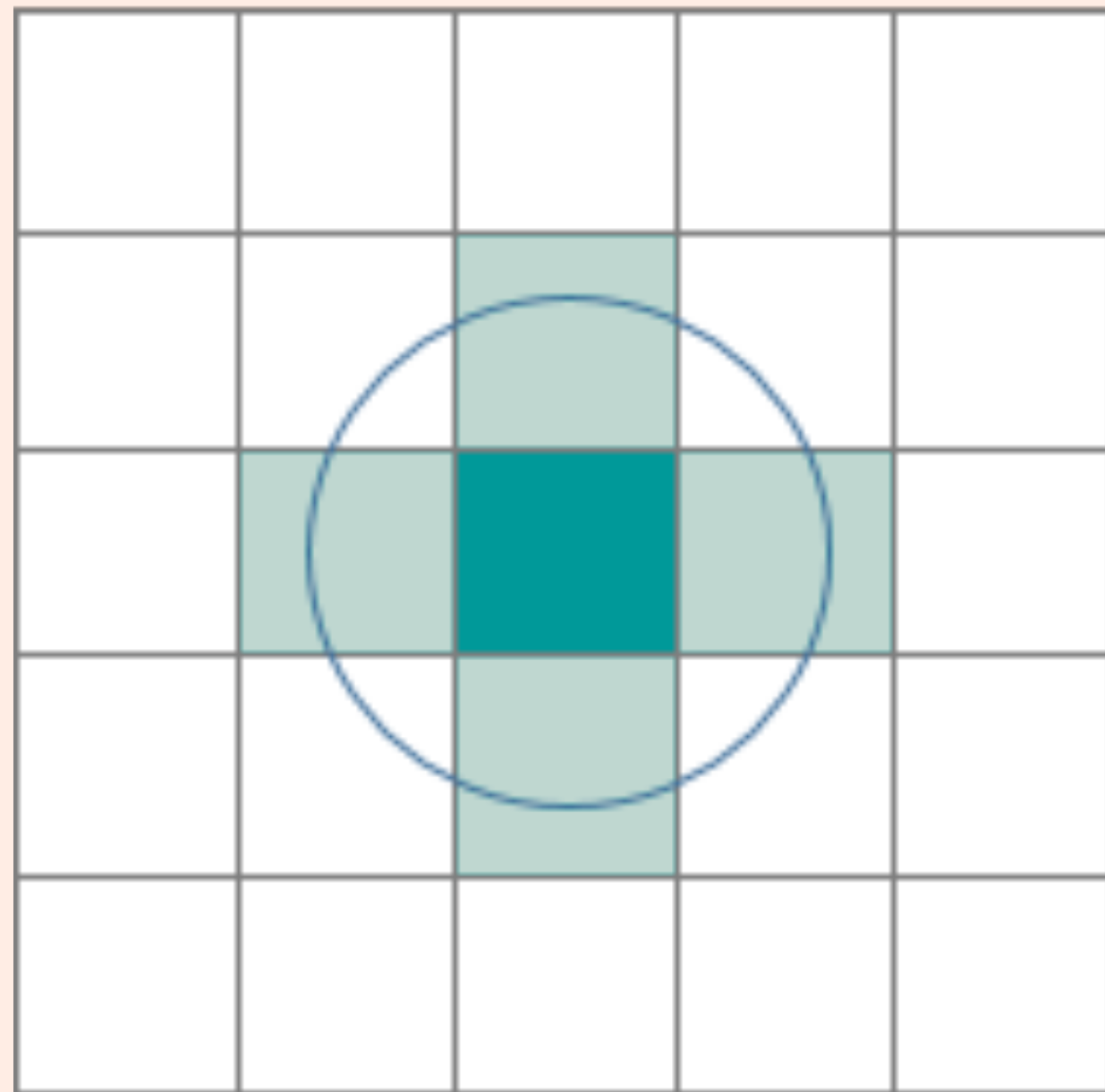
Why Hexagons?

Hexagons:

- Reduce sampling bias

- Curves in data more naturally shown

- Grids draw our eyes to straight, unbroken parallel lines

Pre-computing Data

- Use vectorized functions and avoid loops at all costs!

- Setup a script/notebook to do any heavy wrangling and processing outside your app

- Load data at app start; **re-structure** your data to serve queries!

Summary

- Building good dashboards is HARD, you are fighting an uphill battle in the industry because of all the bad dashboards with terrible defaults

- But it is WORTH IT, dashboards are excellent for **exploring data**, **showcasing important results**, and creating a more **data-aware society**

- Audience matters! Context matters! Research questions matter!

Additional Reading

Resources

- "<u>The end of interactive visualizations</u>"

- "<u>In defence of interactive visualizations</u>"

- "<u>The laws of crappy dashboards</u>"

Resources

- "The end of interactive visualizations"

- "In defence of interactive visualizations"

- "The laws of crappy dashboards"

Paul Cothenet @paulcothenet · May 30
Thanks for resharing. In 5 years I sadly don't think any of the above has gotten out of fashion :D
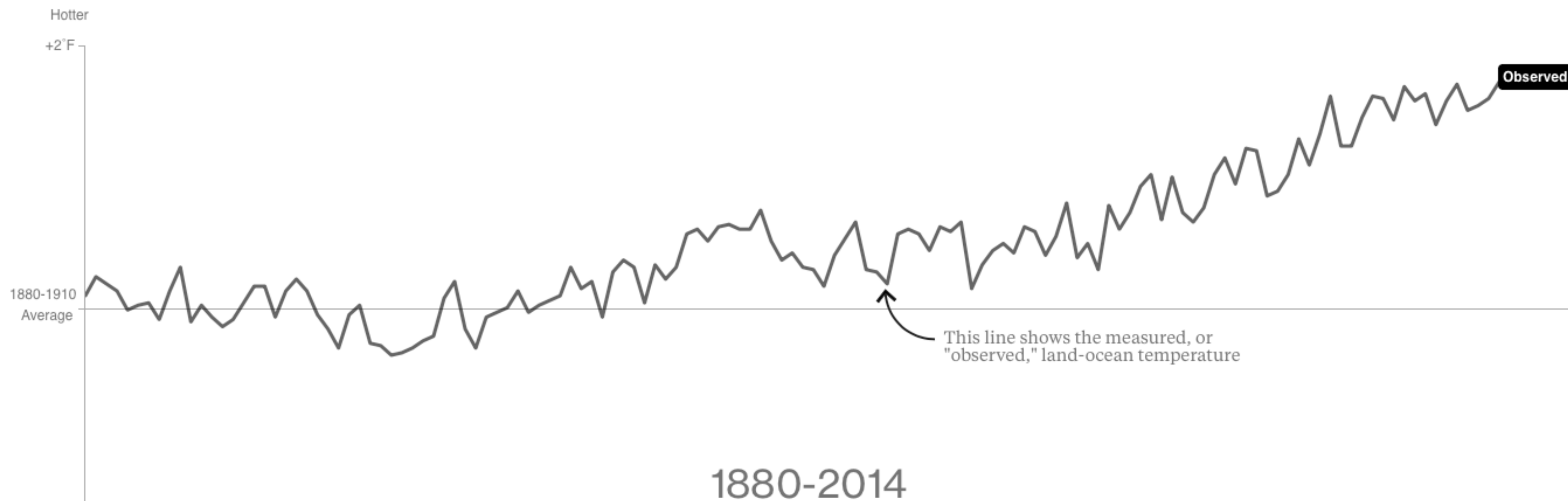
Part 4:
Dashboards case study

What's Really Warming the World?

By Eric Roston 🐦 and Blacki Migliozzi 🐦 | June 24, 2015

Skeptics of manmade climate change offer various natural causes to explain why the Earth has warmed 1.4 degrees Fahrenheit since 1880. But can these account for the planet's rising temperature? Scroll down to see how much different factors, both natural and industrial, contribute to global warming, based on findings from NASA's Goddard Institute for Space Studies.
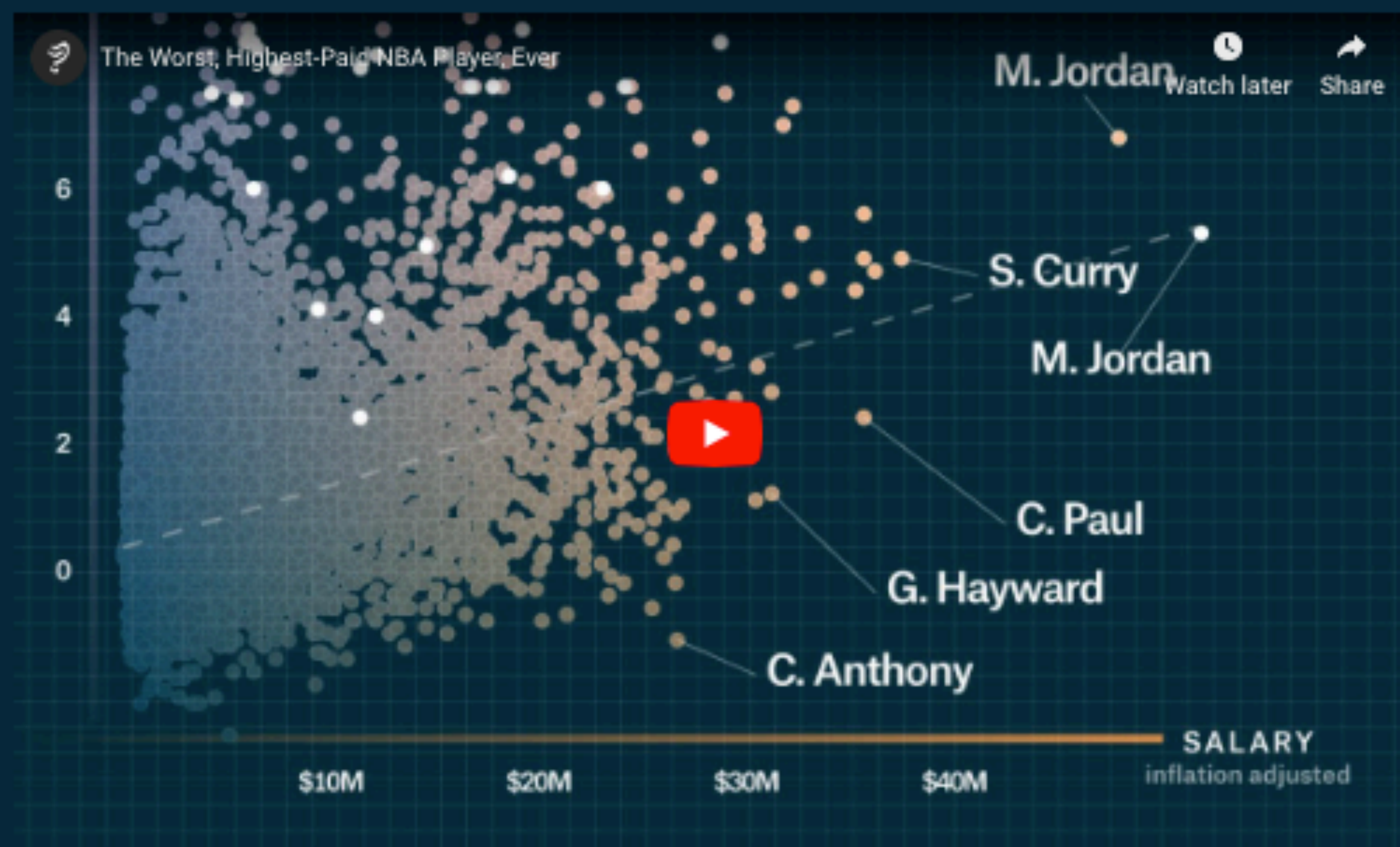
Hotter

+2°F

Observed

1880-1910
Average

→ This line shows the measured, or "observed," land-ocean temperature

-2°F

1880-2014

Source

Finding the Worst, Highest-Paid NBA Player, Ever

Using advanced NBA stats to rank player
performance against pay.

by Matt Daniels

**Watch the Video**

The Worst, Highest-Paid NBA Player, Ever

M. Jordan

S. Curry

M. Jordan

C. Paul

G. Hayward

C. Anthony

SALARY
inflation adjusted

$10M $20M $30M $40M

Does standing on both sides of the escalator work? Test it with our interactive simulator

The interactive below shows how the trial helped ease congestion - showing the number of people reaching the top of each escalator, and based on figures provided by TfL.

Move slider to change customer flow

Off-peak   Peak

Walking   **Standing**

34   33
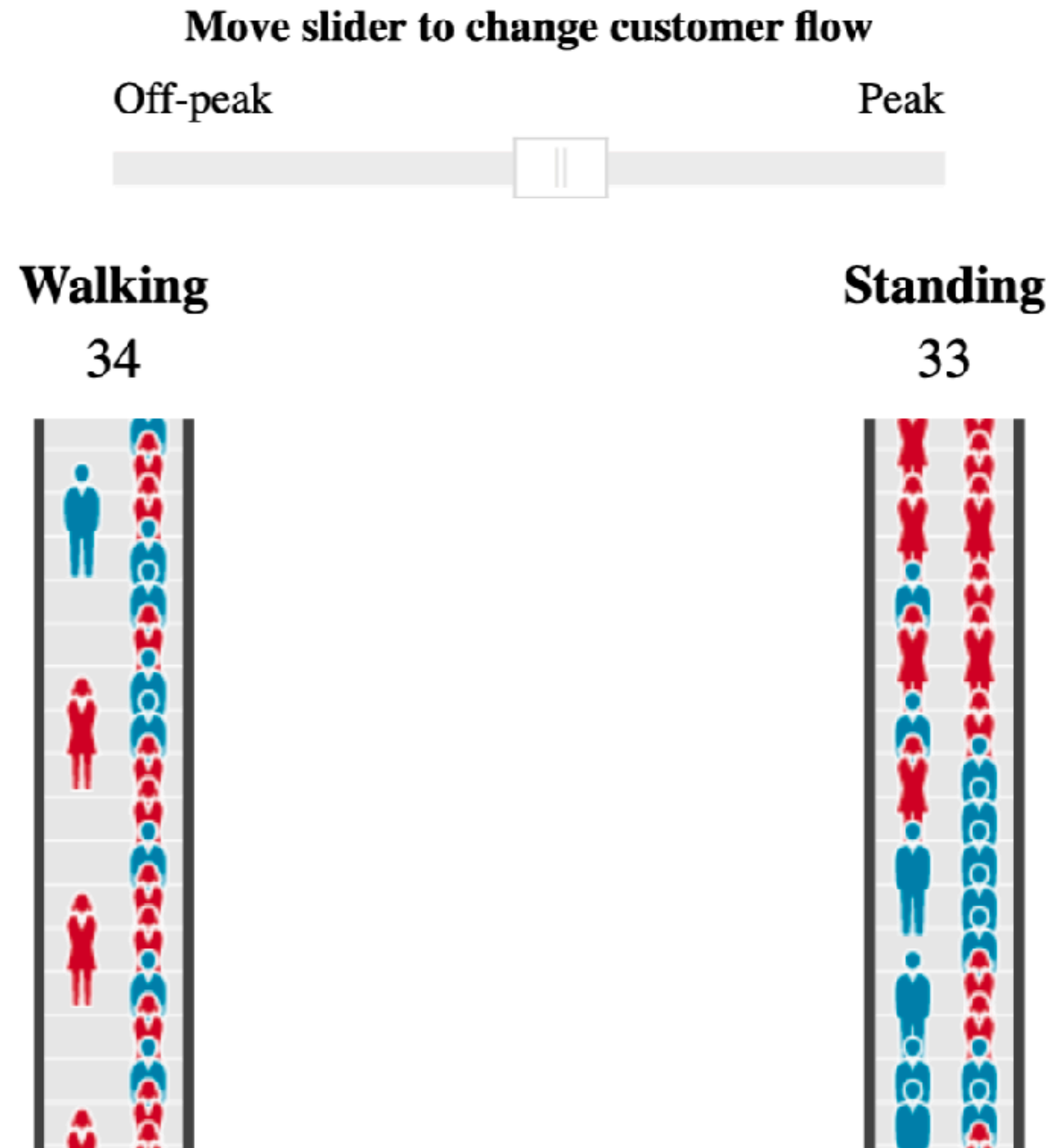
You Draw It: How Family Income Predicts Children's College Chances

By **GREGOR AISCH, AMANDA COX** and **KEVIN QUEALY**   MAY 28, 2015

How likely is it that children who grow up in very poor families go to college? How about children who grow up in very rich families?

We'd like you to **draw your guess** for every income level on the chart below.

If you think the chances of enrolling in college (or vocational school) are about the same for everyone, you should draw something like this: —— . If you think the odds are especially harsh for children from the poorest families, but higher for middle- and higher-income children, your drawing would instead look like this: ⌒ . Or here is one for a situation in which chances level off after a certain income threshold: ⌒ . Or for one that spikes ⌒ or dips ⌒ for the very richest.

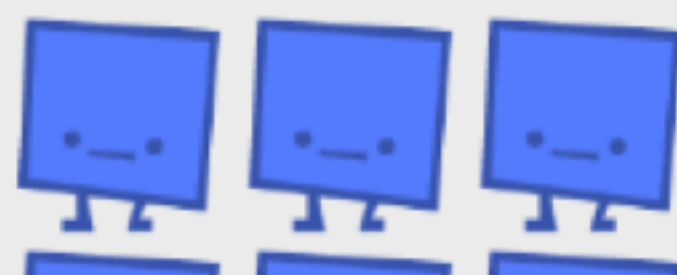**Source**

PARABLE OF THE POLYGONS

A PLAYABLE POST ON THE SHAPE OF SOCIETY

by vi hart + nicky case

español | deutsch | français | português | 日本語 | 中文 | polski
italiano | magyar | nederlands | हिन्दी | čeština | Русский | العربية | Українська
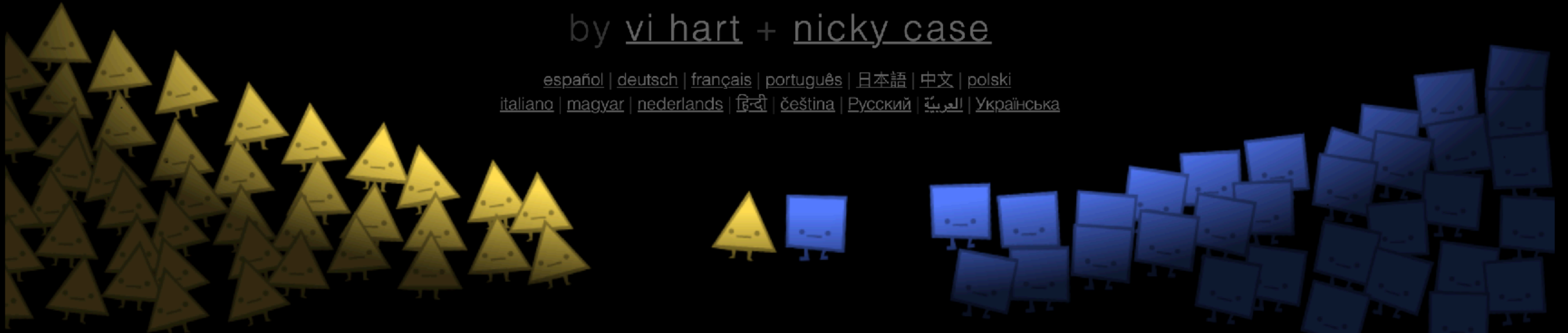
This is a story of how harmless choices can make a harmful world.

These little cuties are 50% Triangles, 50% Squares, and 100% slightly shapist.
But only slightly! In fact, every polygon *prefers* being in a diverse crowd:

Can you form a stable government?

Combine parties as best you can to form a workable government. You need 323 votes, probably, to survive a confidence vote, but you may find that some parties get along together better than others

Choose your parties

Start by dragging either Labour or Conservatives

Ukip 3

SNP 52

PC 3

SDLP 3

Green 1

You have

582 seats

Reset

It's a bad match because …

DUP 9

Great list of fantastic interactive dashboards!

Q&A