

# Visual Storytelling I

## Session Six

MVIS 5101 March–May 2023

# Today:

- Narrative Structures & Datavis types
- Discuss the Final Project
- Share Final Project sketches

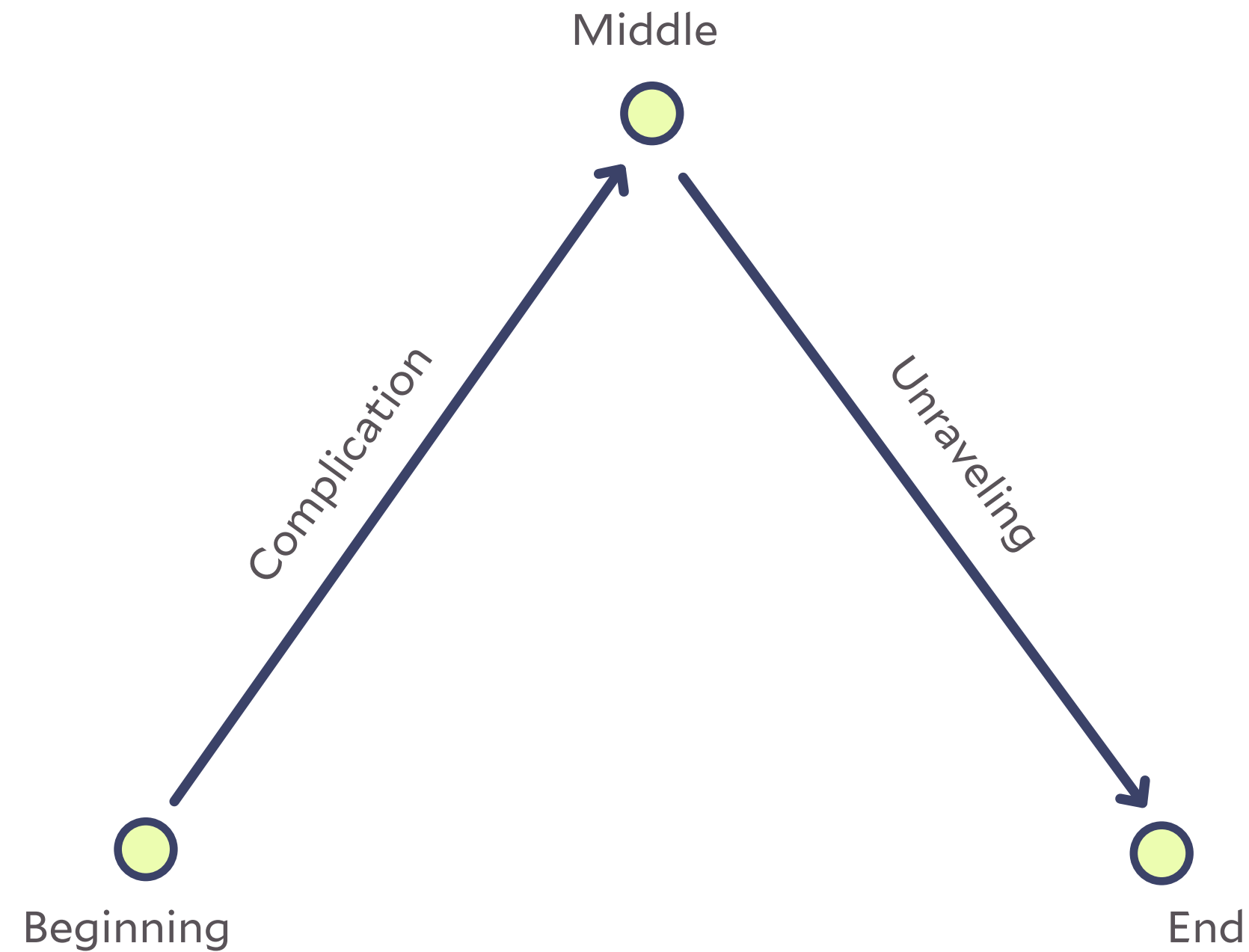
# Narrative Structures

**“Storytelling is ultimately a creative act of pattern recognition. Through characters, plot and setting, a writer creates places where previously invisible truths become visible. Or the storyteller posits a series of dots that the reader can connect.”**

**- Douglas Coupland**

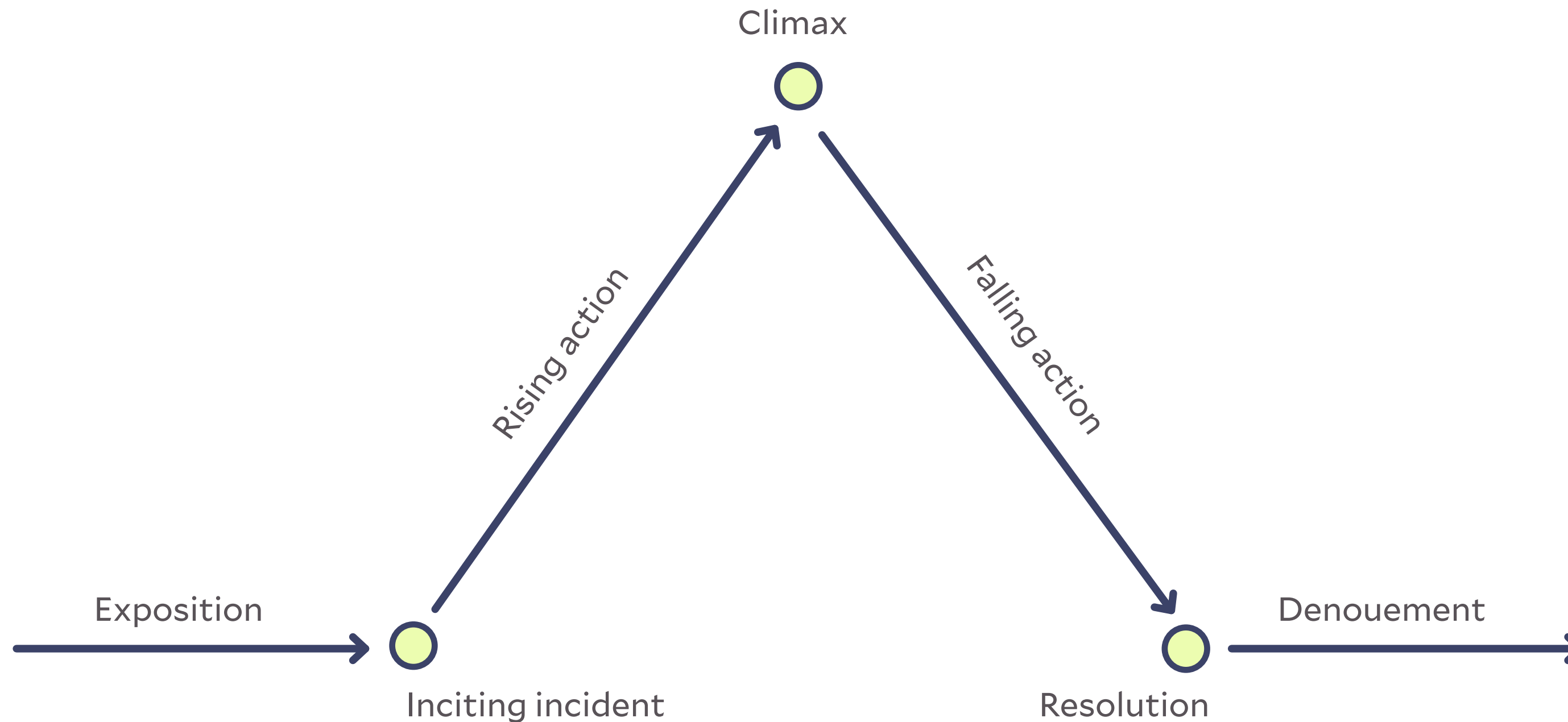
# Storytelling structures

## Aristotle's Tragedy Structure



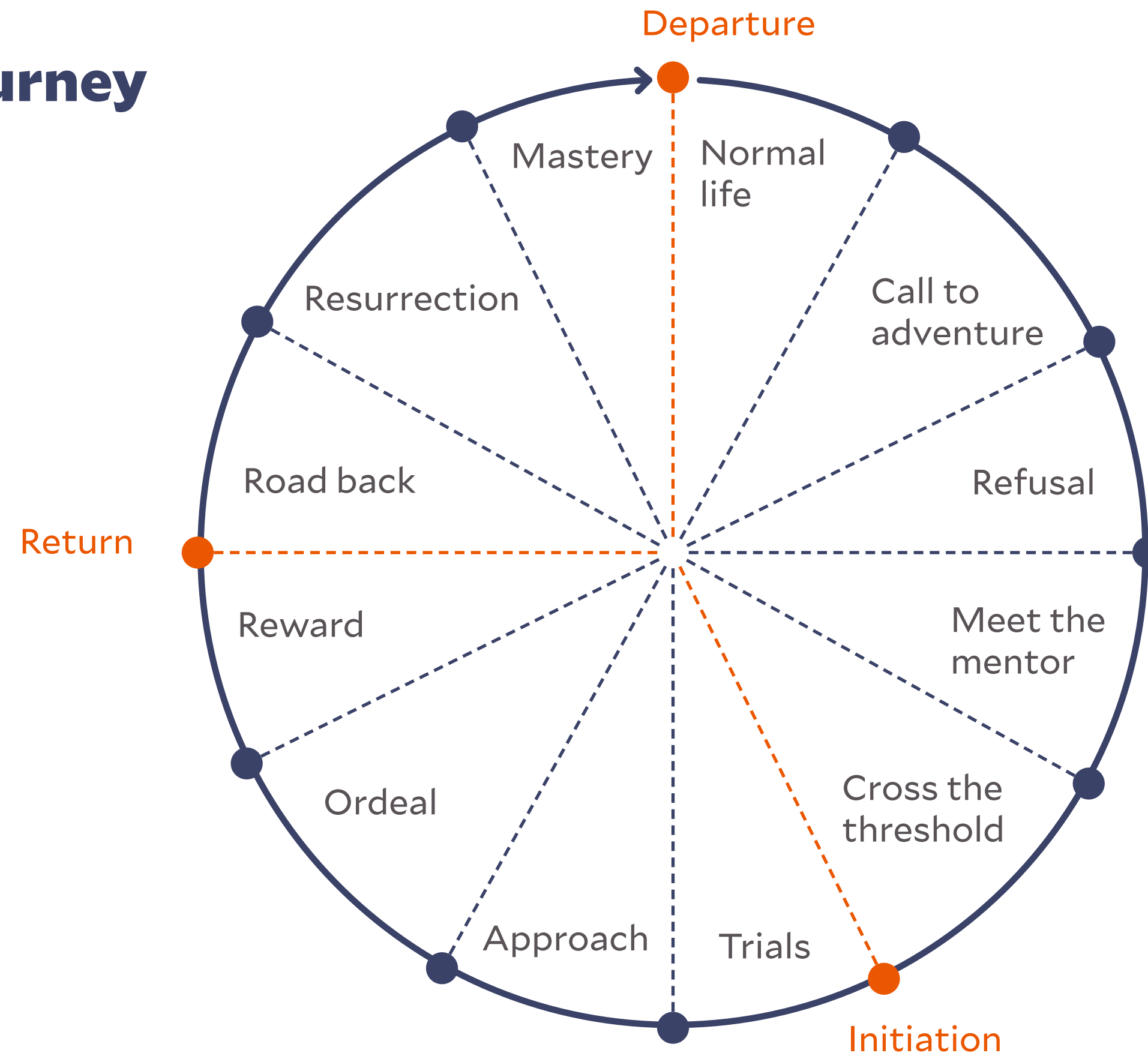
# Storytelling structures

## Freytag's Pyramid



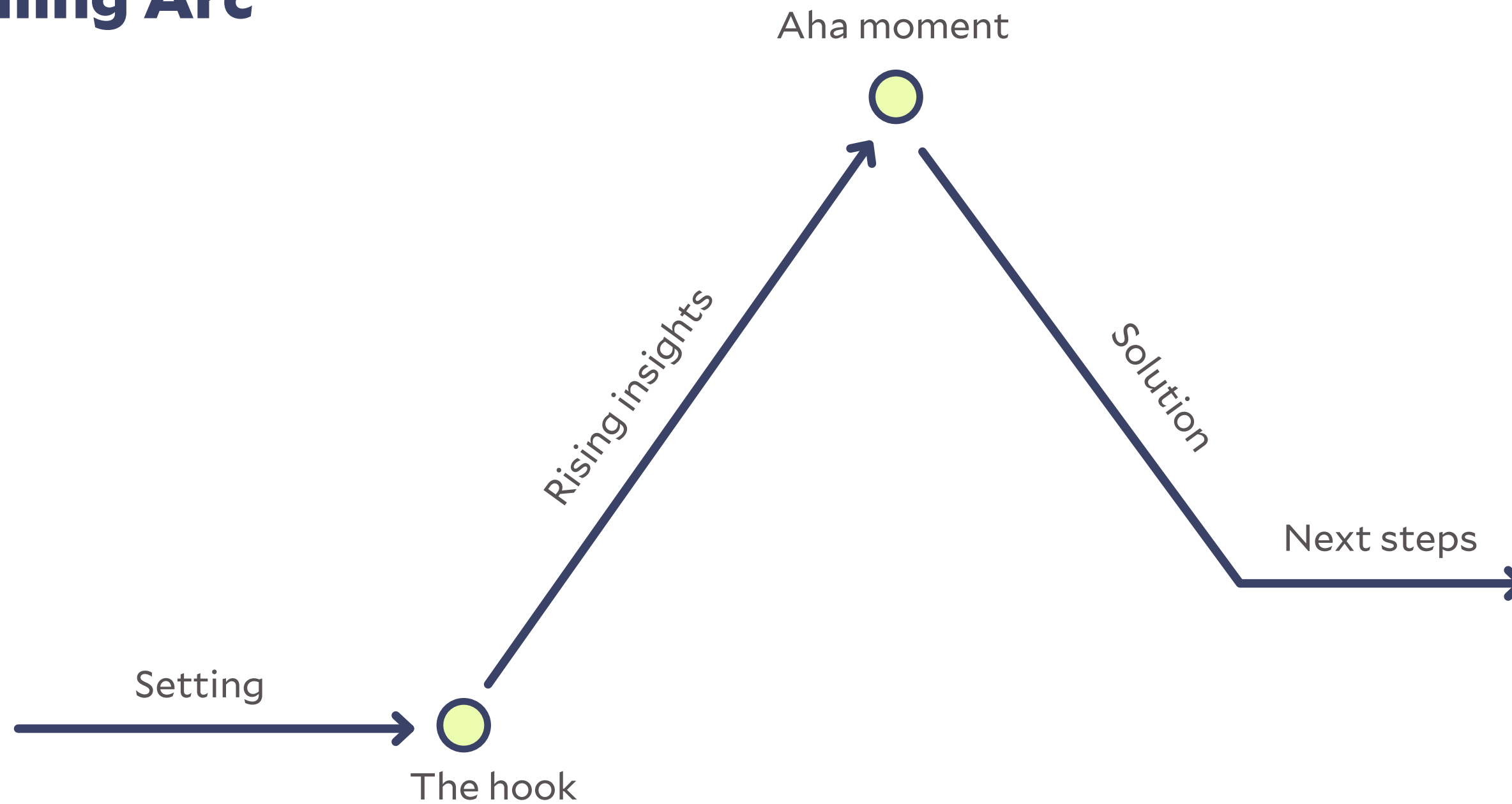
# Storytelling structures

## Campbell's Hero's Journey



# Storytelling structures

## Brent Dykes' Data Storytelling Arc







Kelsey Robinson

## LEVEL UP

Mono Lake's salty water is home to trillions of alkali flies and brine shrimp - an important food source to millions of migratory birds. When water levels fall, it threatens the wildlife who depend on it. Help return the lake to healthier, sustainable levels.

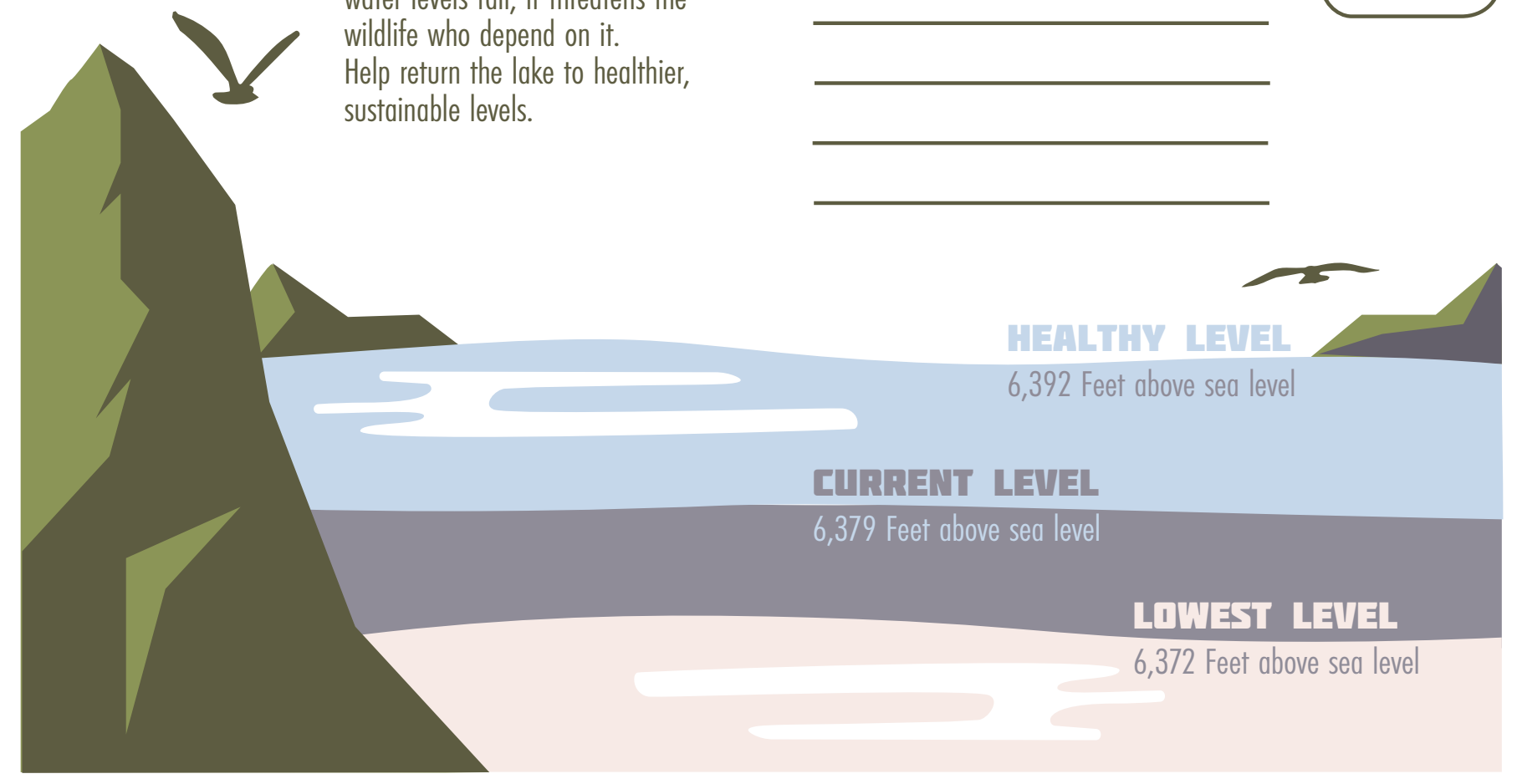
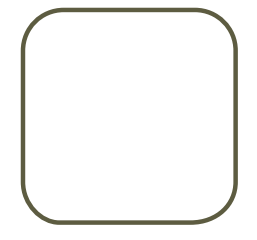
**TELL A FRIEND!  
HELP SAVE THE LAKE!**

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## CALL YOUR GULL FRIEND

One of the world's largest nesting grounds for California gulls is **Negit Island** in Mono Lake. When water levels fell to their lowest levels a land bridge formed and allowed coyotes and other predators to access the island. In 1979 not a single gull chick survived to adulthood.

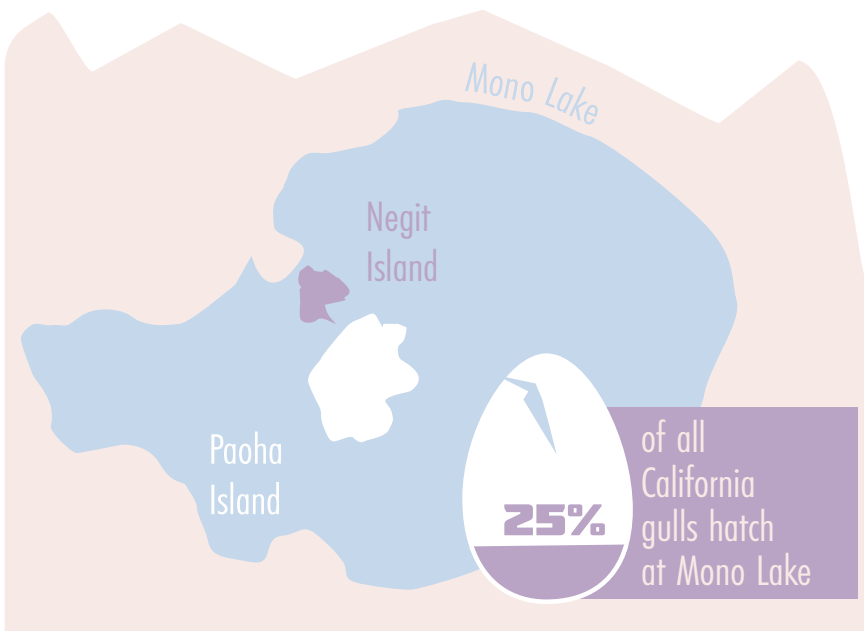
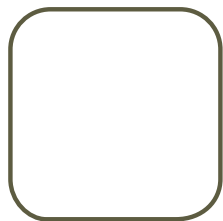
## TELL A FRIEND! PROTECT BIRD HABITATS!

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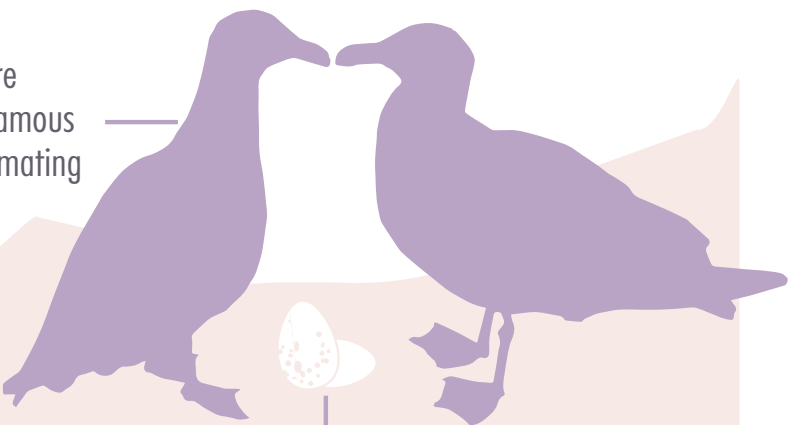
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Gulls are monogamous during mating season.

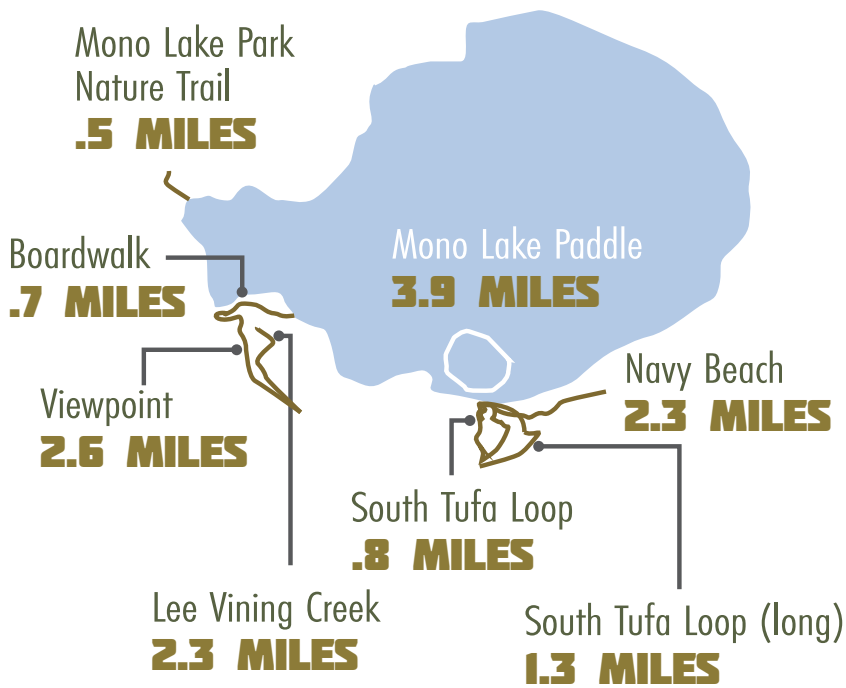


Both males and females incubate the eggs and care for the hatchlings.



## TRAIL OFF

Mono Lake State Naural Area boasts 8 easily walkable trails totalling 14.4 miles, offering unique views of mountains, lake shores, limestone rock formations and brilliant wildflowers.



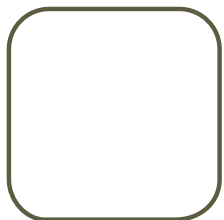
**TELL A FRIEND!**  
**HIKE THE TRAILS**

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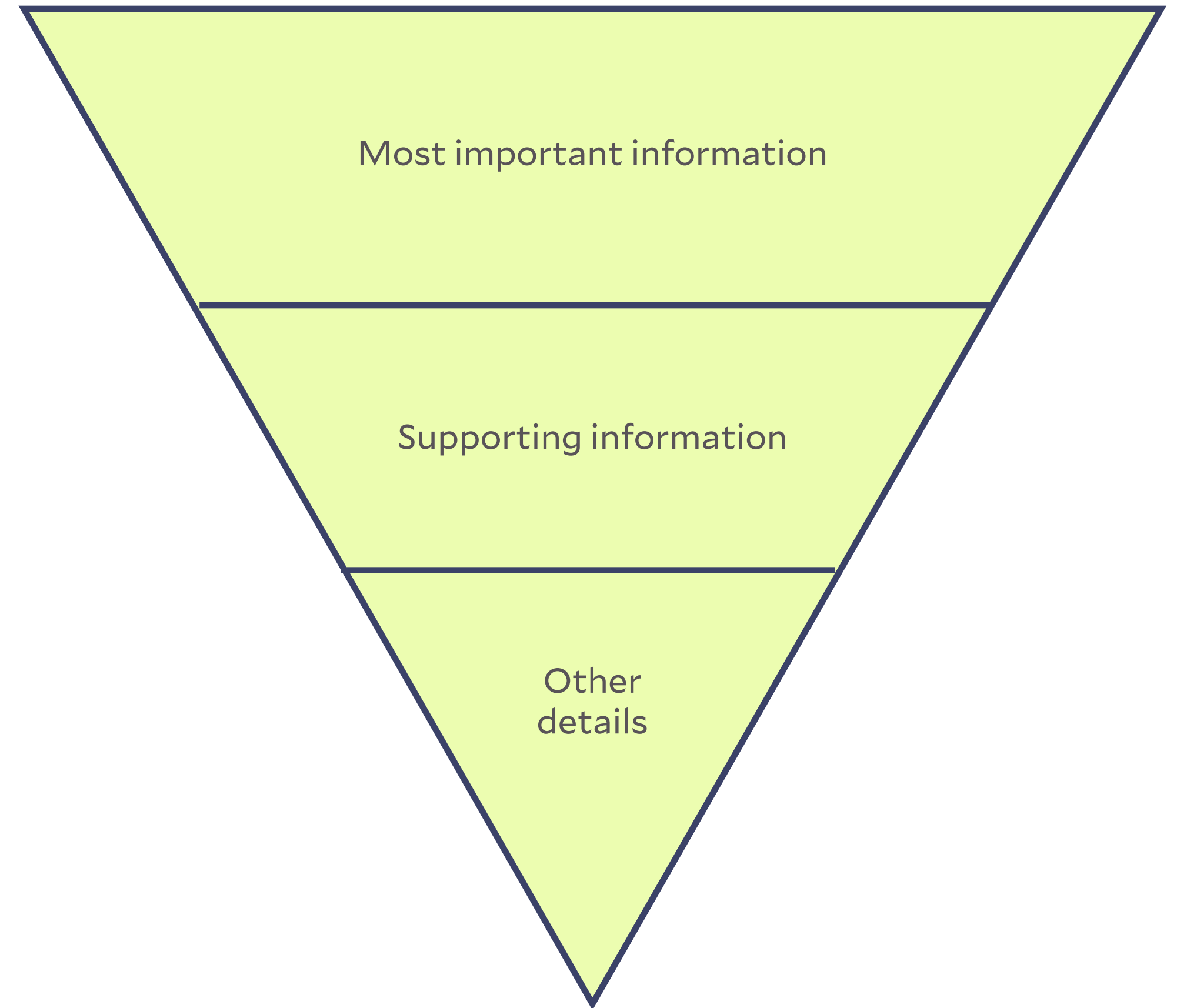
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# Alternative structures

## News format

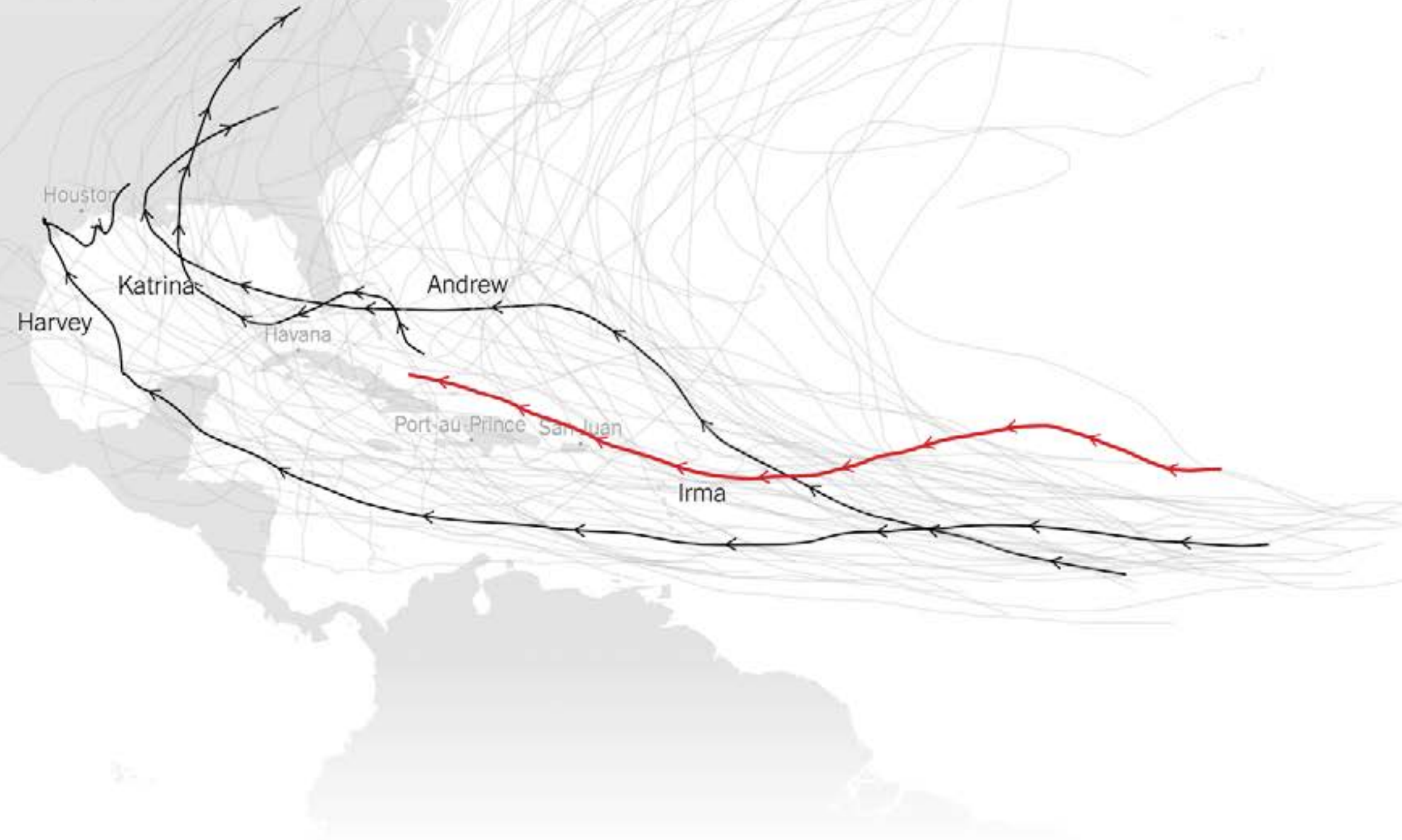
- “Inverted pyramid” starting with most important information (lede).
- Next provides supporting information.
- Concludes with other noncritical details.



# Hurricane Irma Is One of the Strongest Storms In History

By GREGOR AISCH, ADAM PEARCE and KAREN YOURISH SEPT. 9, 2017

Here are all of the Atlantic hurricanes that reached Category 3 or stronger over the last 50 years. Hurricane Irma is highlighted in red.

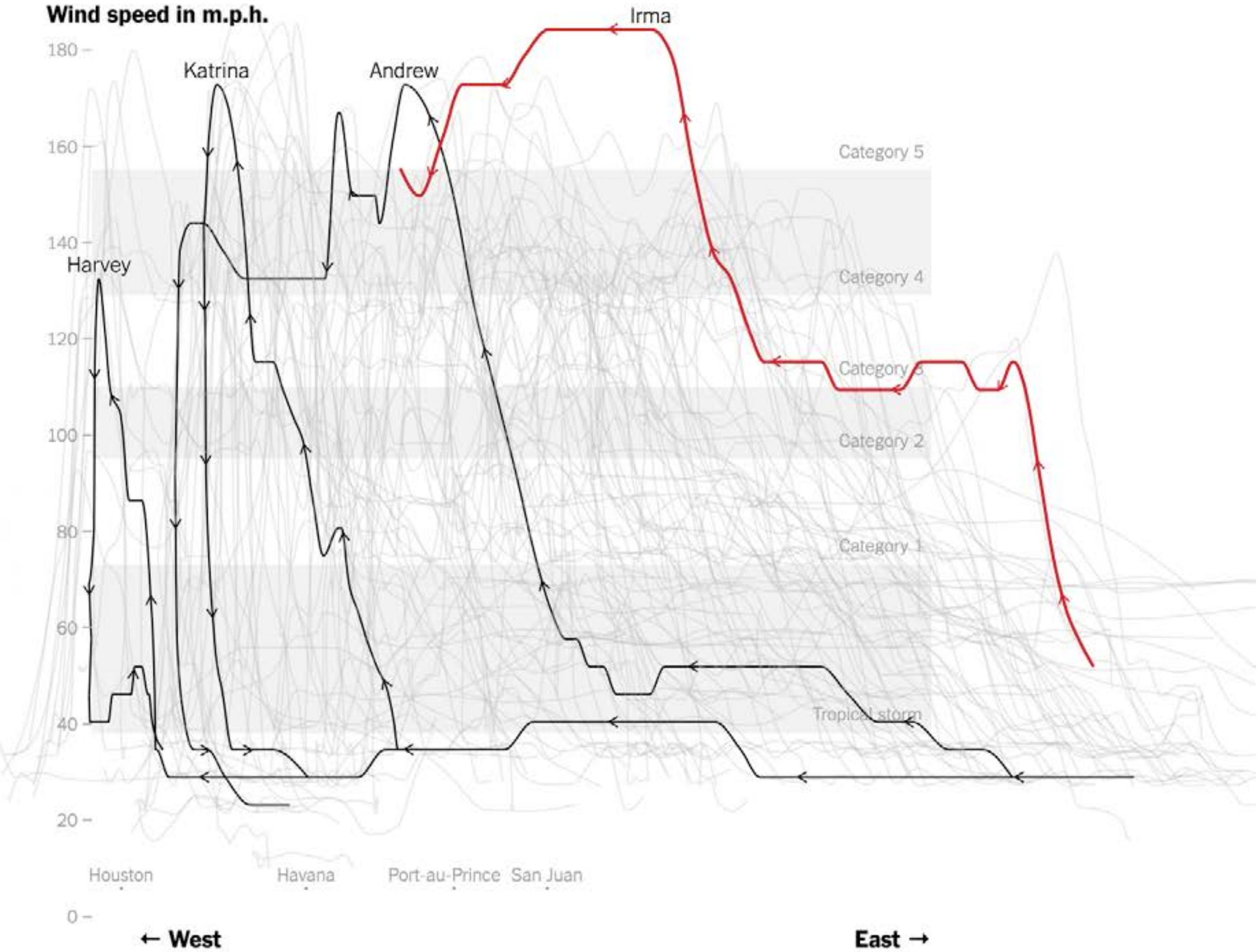


No other hurricane has matched the strength of Irma's winds so far east in



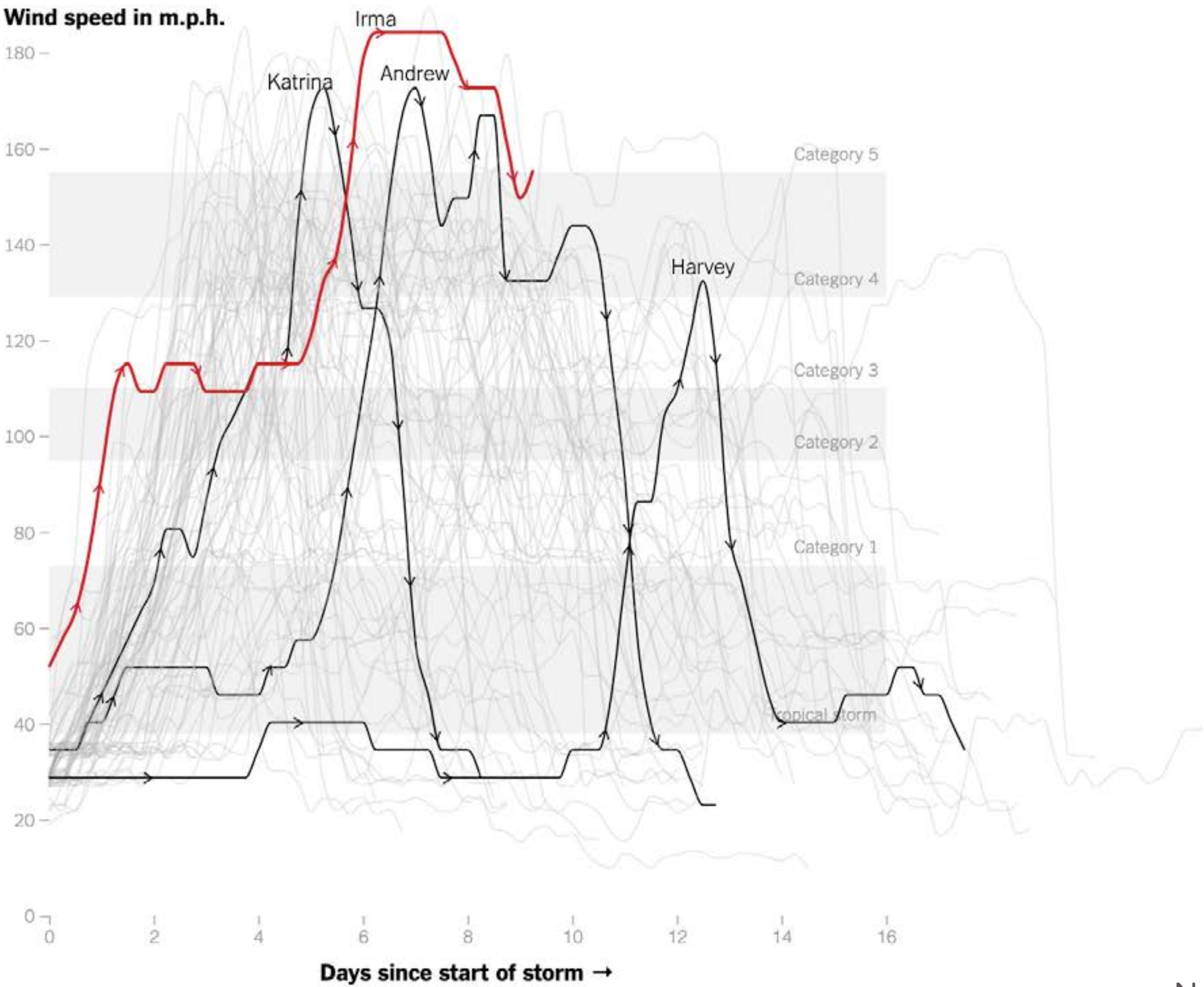
No other hurricane has matched the strength of Irma's winds so far east in the Atlantic.

Irma was classified as a Category 5 hurricane for three consecutive days, longer than any other Atlantic hurricane.



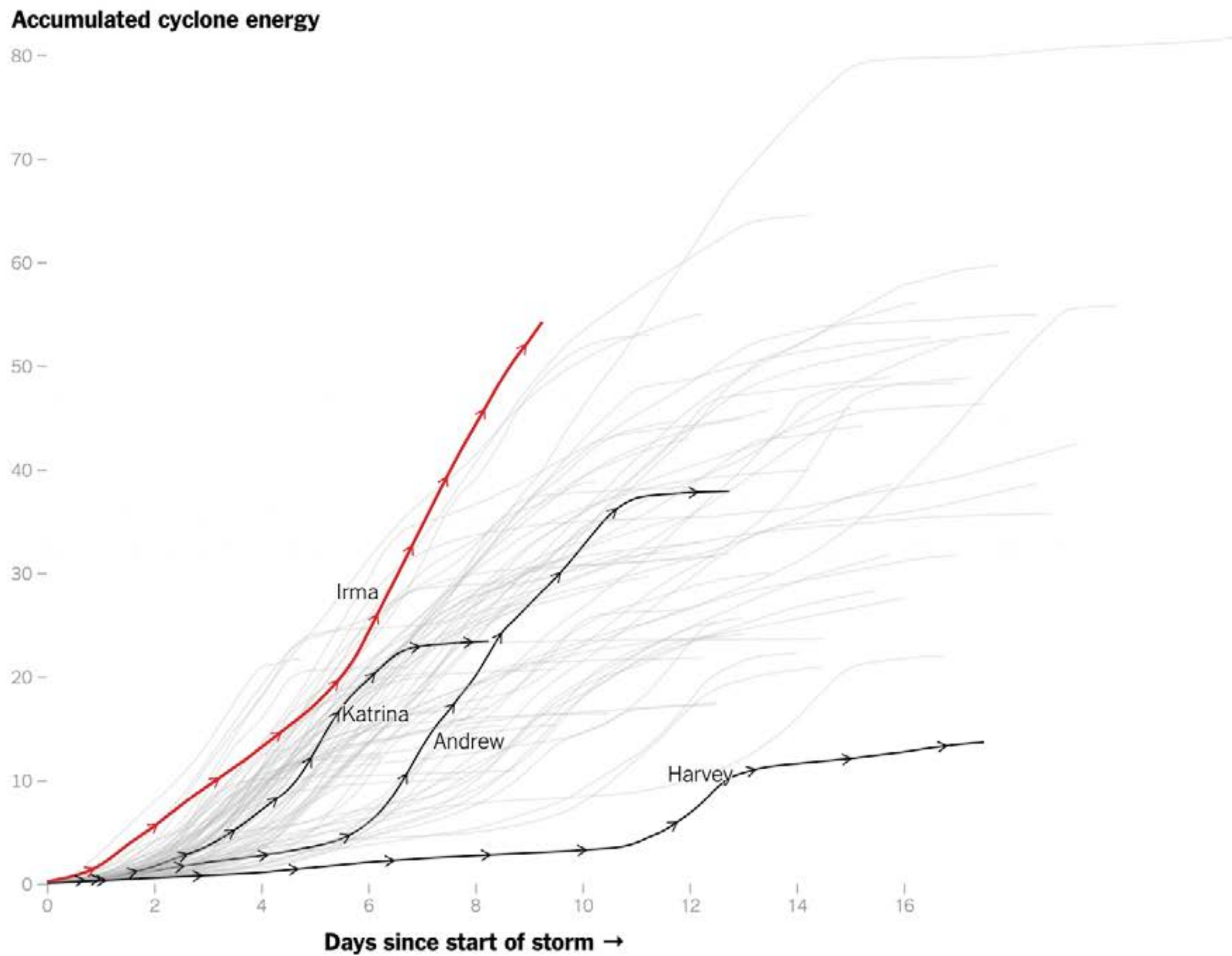
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Irma has also broken records for accumulated cyclone energy, a measure that combines storm strength and duration. This metric is likely to increase during the weekend as the storm nears the United States.





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# Alternative structures

## **Situation, Action, Result**

- Situation: What was the problem? What was the desired outcome?
- Action: What steps were taken to address the problem, and why?
- Result: What happened? What was the outcome



# Alternative structures

## Five-paragraph Essay

- Introduction: What was the problem and why is it relevant?
- Body: What information addresses the problem?
- Conclusion: What is the overarching insight or teaching point? What is the essential insight?



# Alternative structures

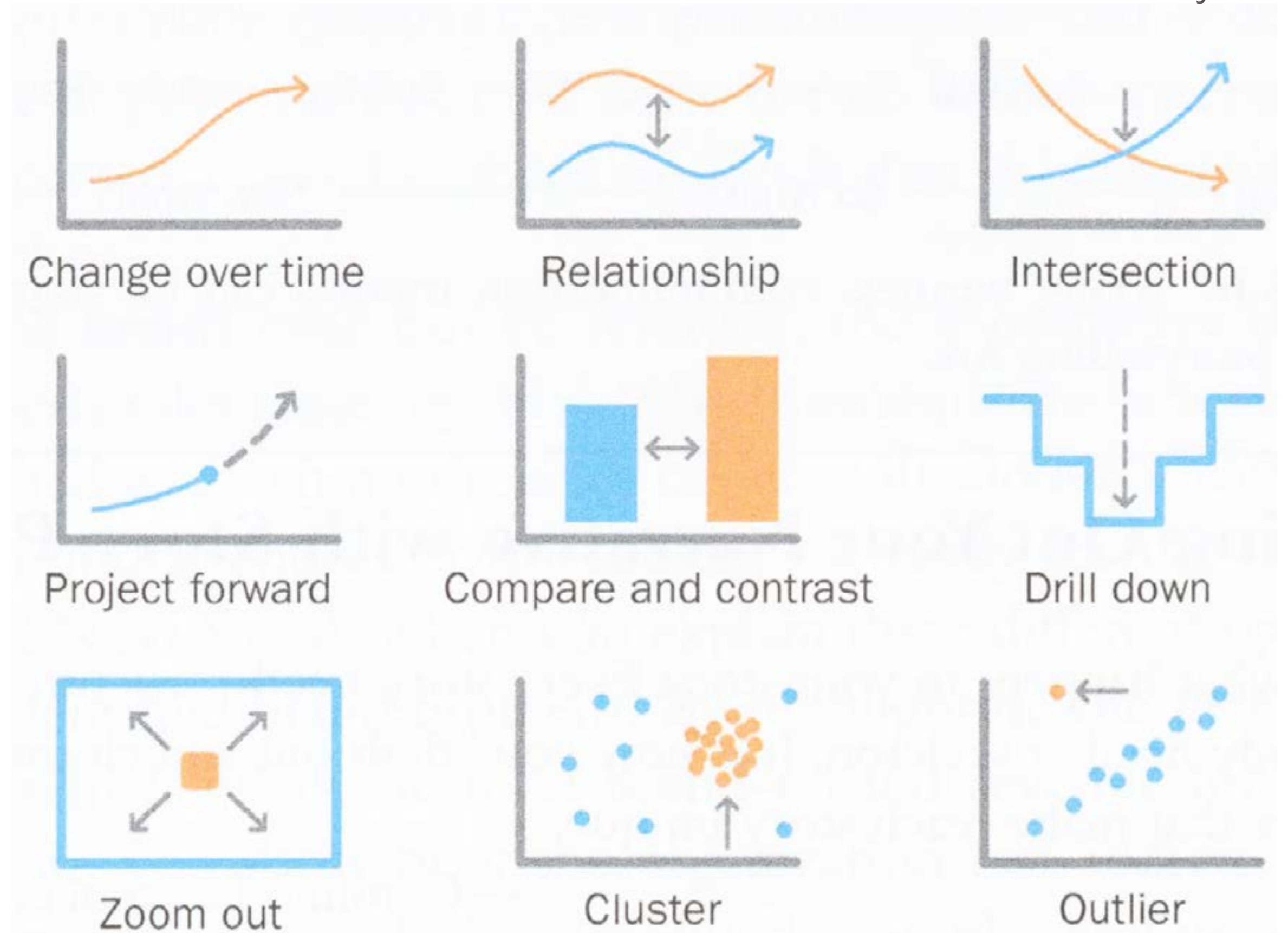
## **Tell ‘Em (Repetition)**

- What you’re going to say
- What you say
- What you just said

# Storypoints for graphical form

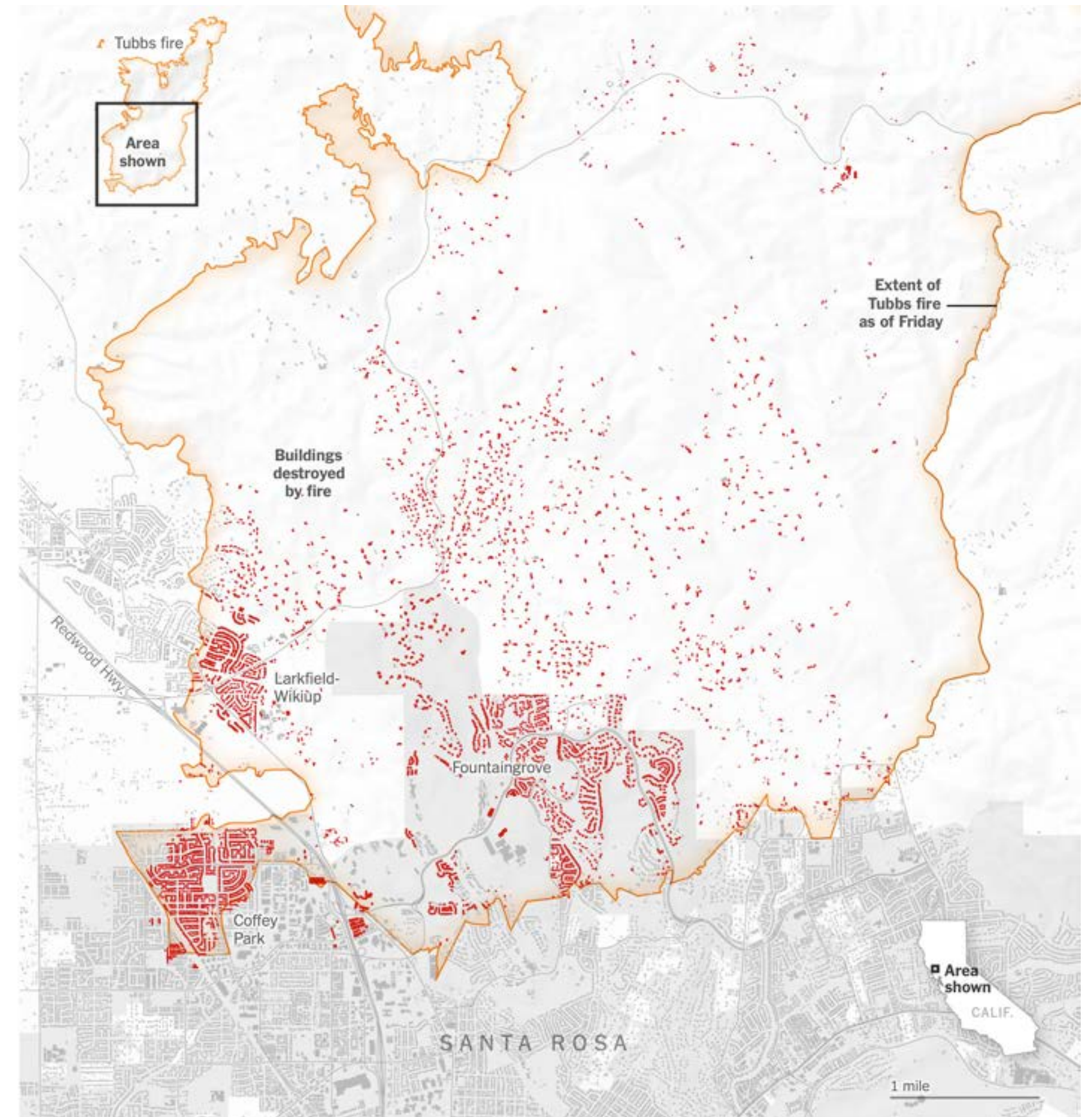
Brent Dykes

1. Change over time
2. Relationship
3. Intersection
4. Project forward
5. Compare/contrast
6. Drill down
7. Zoom out
8. Cluster
9. Outlier





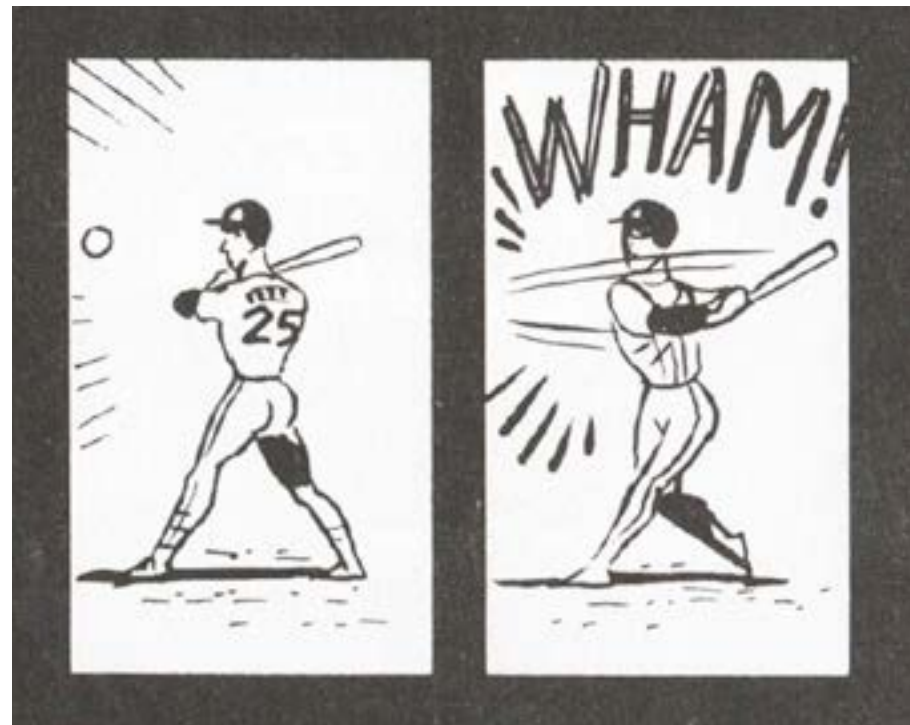
1. Change over time
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# Relationship between storypoints

Scott McCloud



Action to action



Subject to subject



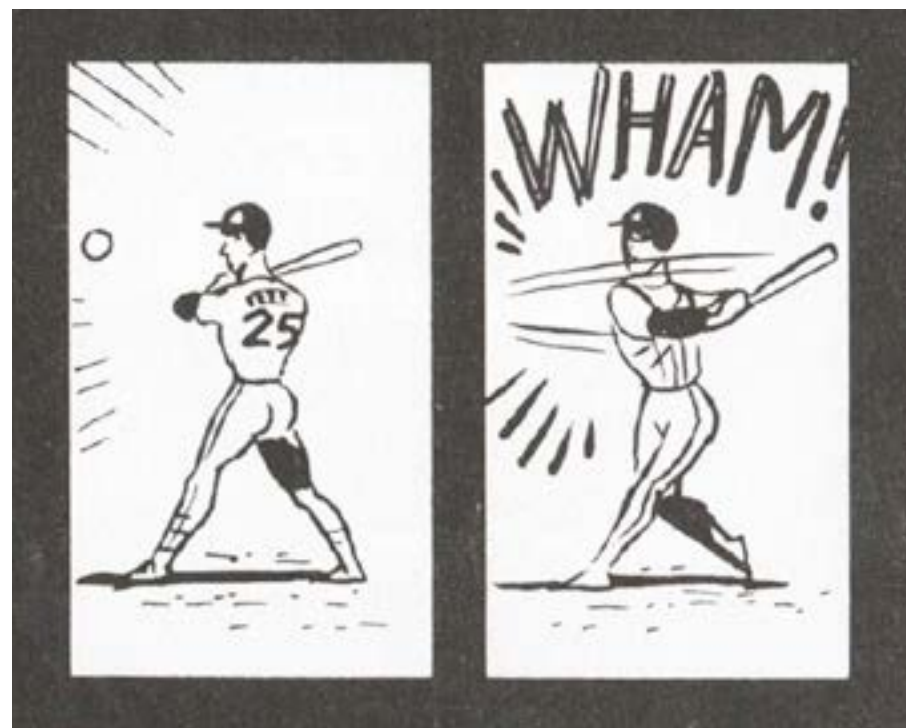
Scene to scene



Aspect to aspect

# Relationship between storypoints

Scott McCloud



Action to action



Subject to subject

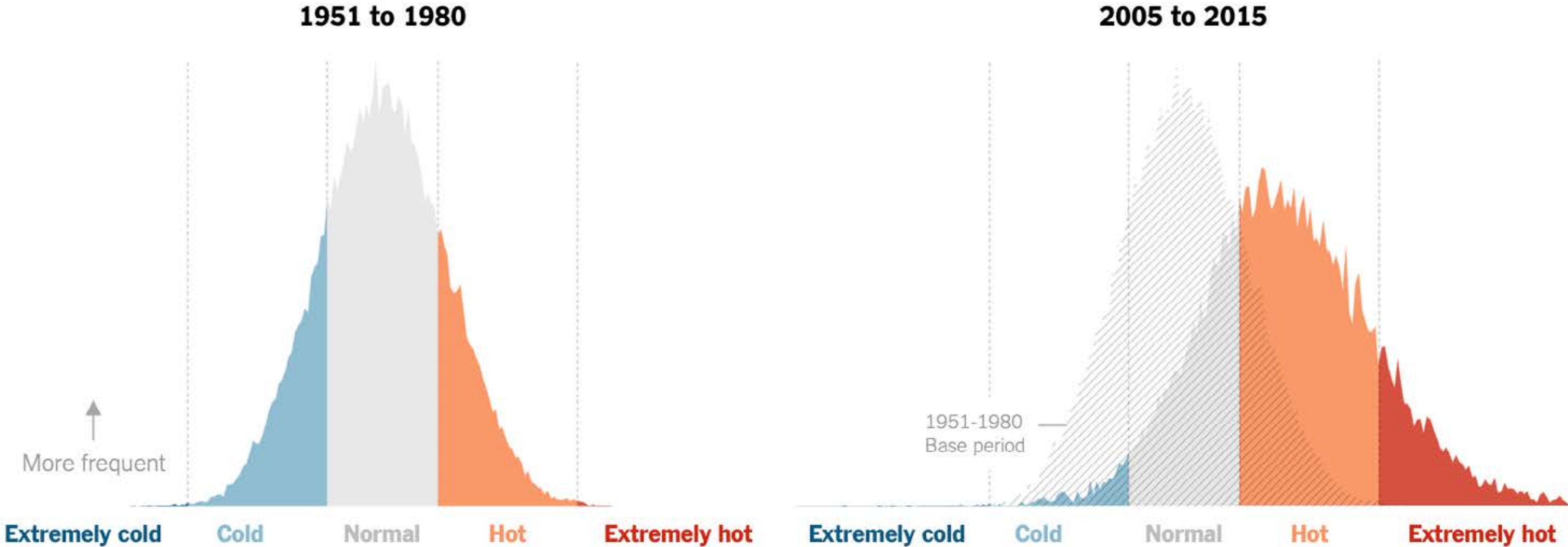


Scene to scene



Aspect to aspect

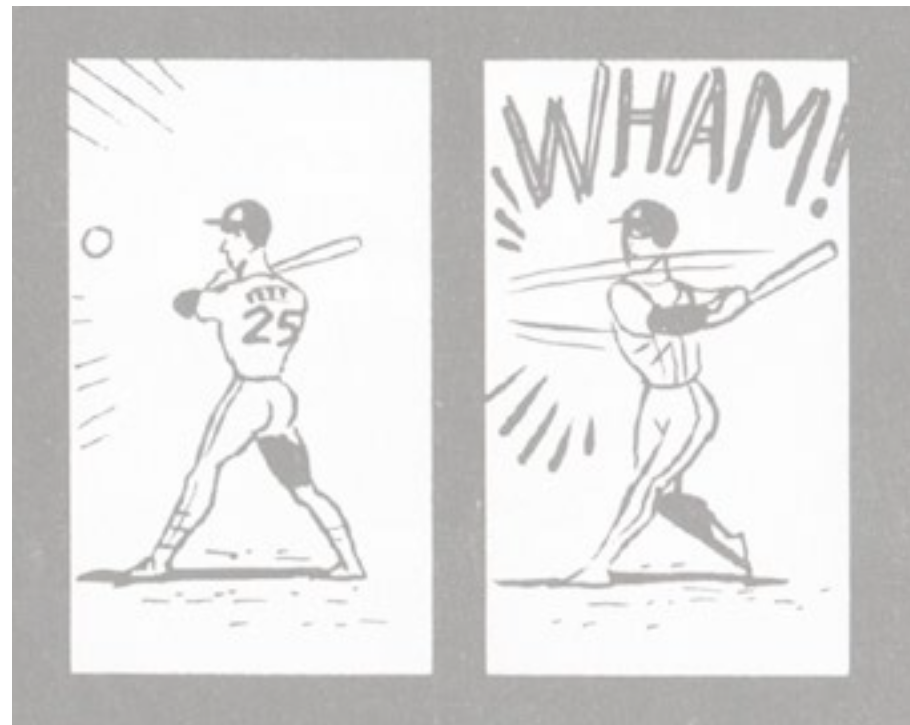






# Relationship between storypoints

Scott McCloud



Action to action



Subject to subject



Scene to scene



Aspect to aspect



# Where We Came From and Where We Went, State by State

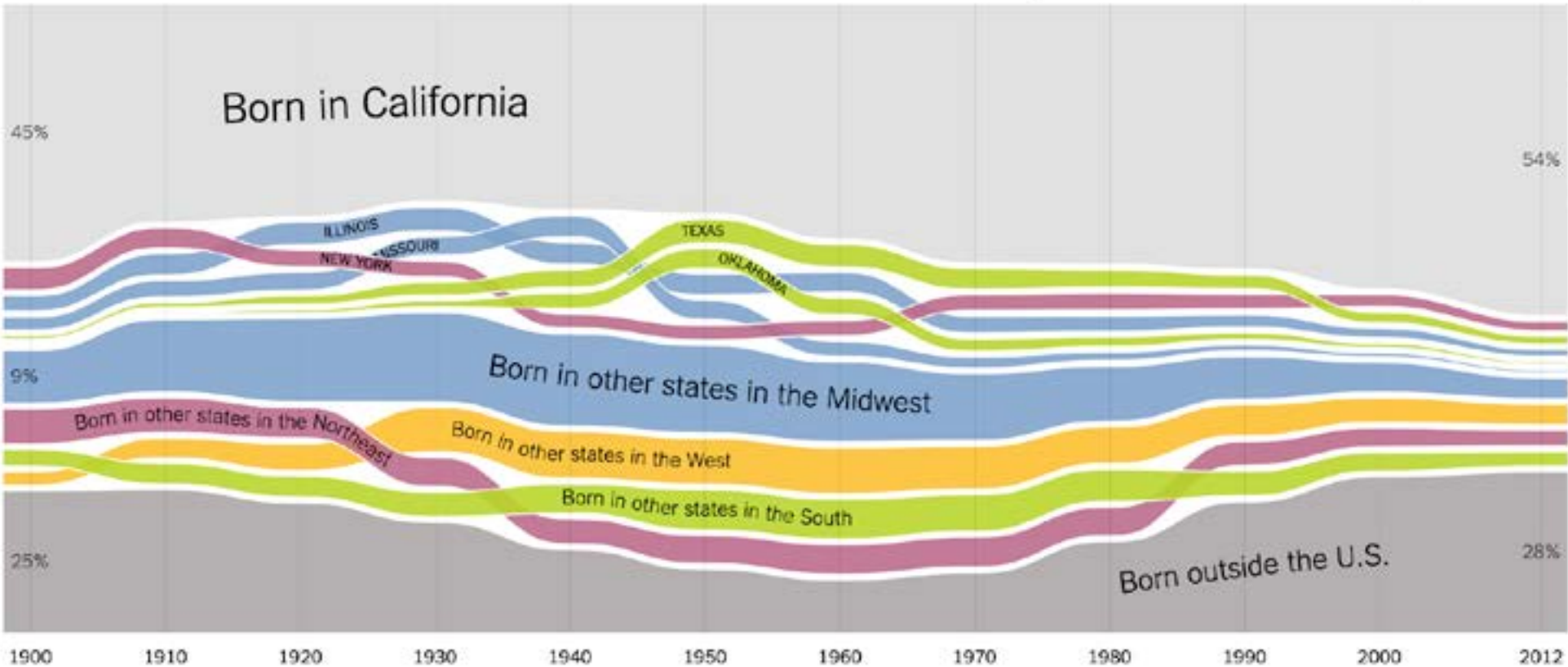
By GREGOR AISCH, ROBERT GEBELOFF and KEVIN QUEALY UPDATED August 19, 2014

We charted how Americans have moved between states since 1900. See how your state has changed.

Updated Aug. 19 Use this button to toggle between migrations to states and diaspora from states.

Where people living in California **were born:**

New! [Switch to Diaspora Out of California](#)



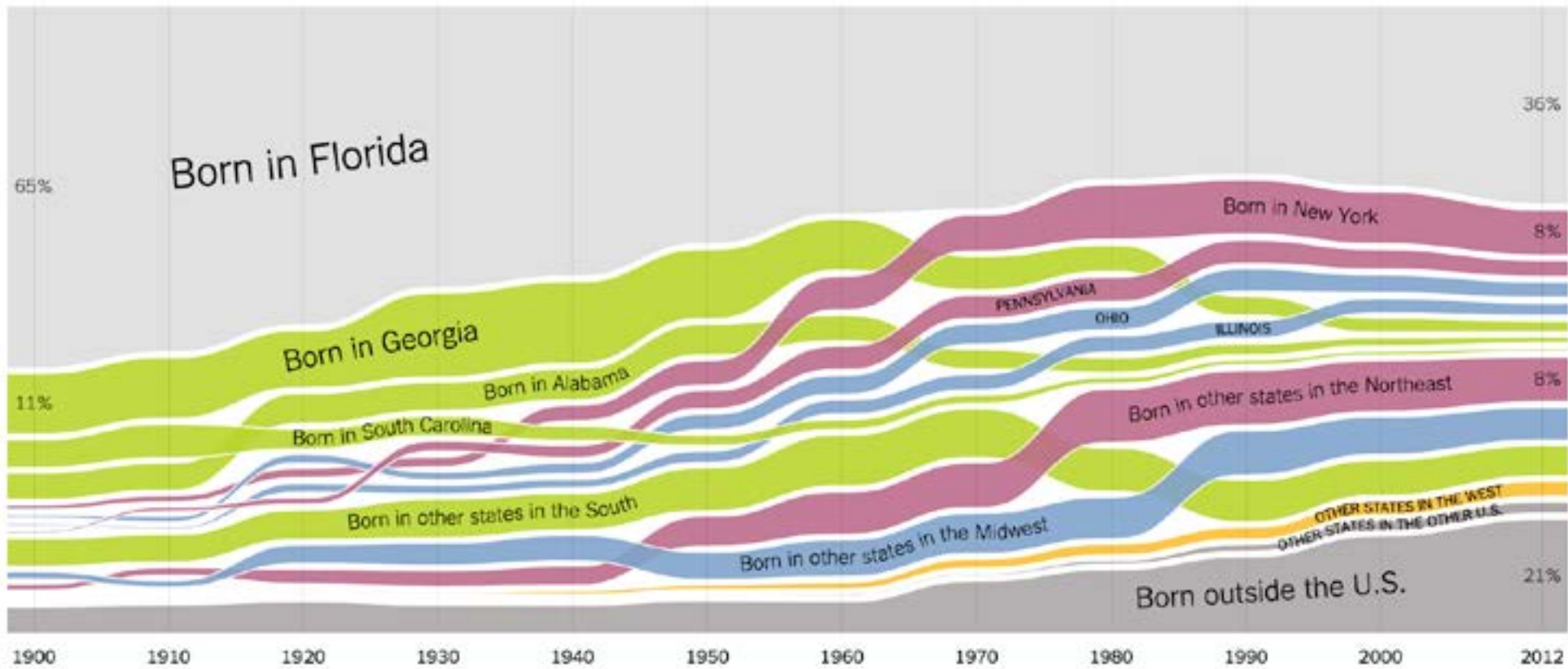
Foreign immigration is a hot topic these days, but the movement of people from one state to another can have an even bigger influence on the United States' economy, politics and culture. Americans have already seen this with the Western expansion, the movement of Southern blacks to Northern cities and the migration from the Rust Belt.

[TWEET THIS CHART](#)  
[SHARE ON FACEBOOK](#)  
[PIN THIS CHART](#)

New York Times

Where people living in Florida **were born:**

New! [Switch to Diaspora Out of Florida](#)



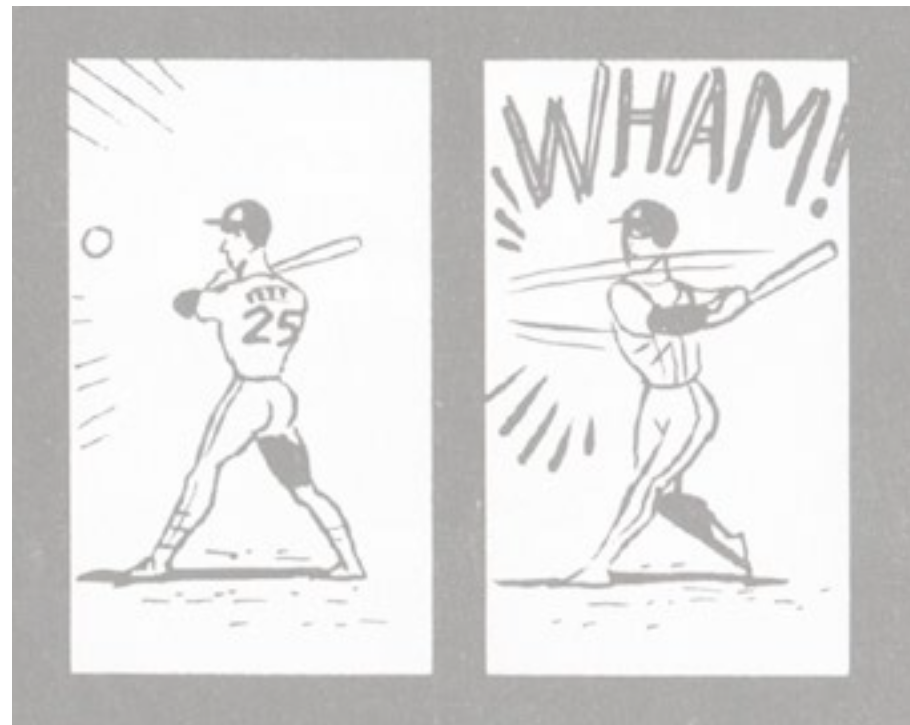
MIGRATION INTO FLORIDA  
It seems as if Florida has been pulling down residents from snow country forever, but the reality is, through 1960, Georgia was the leading source of Florida migration. Now the Northeast and Midwest are dominant. Florida has grown so much that even though this chart makes it appear that the migrant population is shrinking, it isn't; it's just not growing as fast as the native-born and immigrant populations.

[TWEET THIS CHART](#)  
[SHARE ON FACEBOOK](#)  
[PIN THIS CHART](#)



# Relationship between storypoints

Scott McCloud



Action to action



Subject to subject



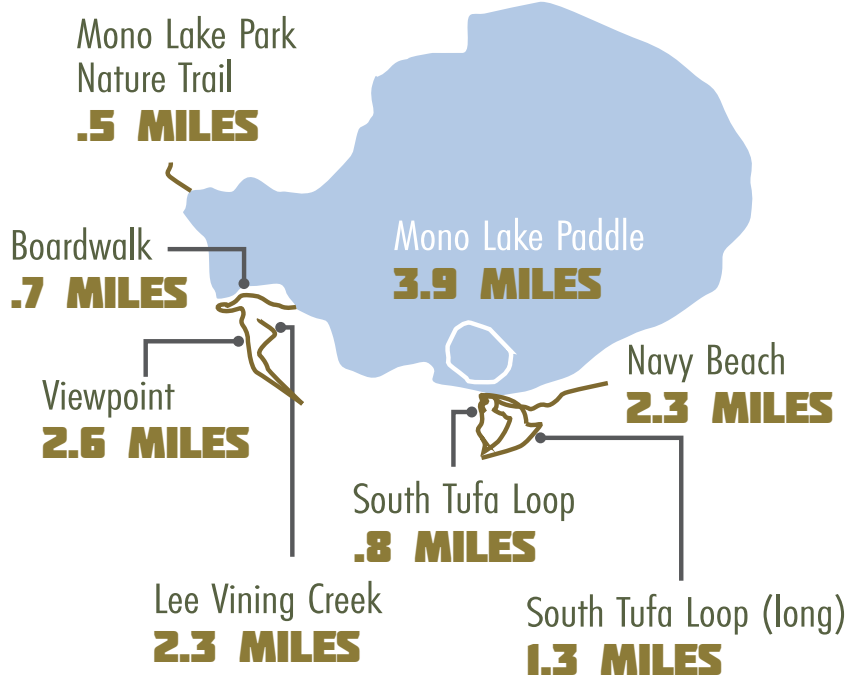
Scene to scene



Aspect to aspect

TRAIL  
OFF

Mono Lake State Naural Area boasts 8 easily walkable trails totalling 14.4 miles, offering unique views of mountains, lake shores, limestone rock formations and brilliant wildflowers.



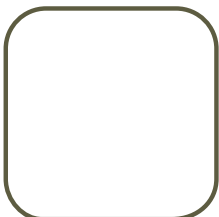
TELL A FRIEND!  
HIKE THE TRAILS

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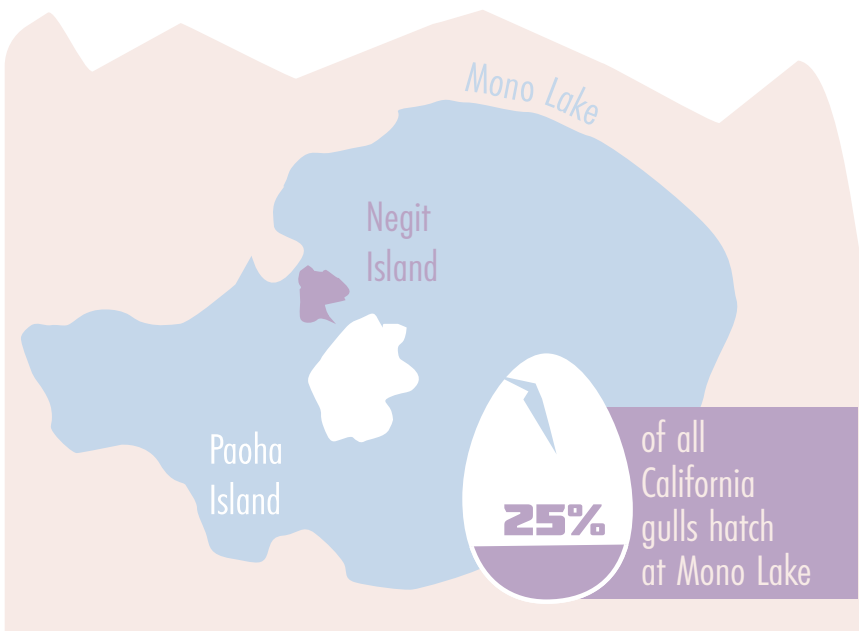
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CALL  
YOUR  
GULL  
FRIEND

One of the world's largest nesting grounds for California gulls is **Negit Island** in Mono Lake. When water levels fell to their lowest levels a land bridge formed and allowed coyotes and other preadators to access the island. In 1979 not a single gull chick survived to adulthood.



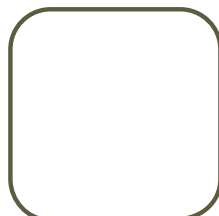
TELL A FRIEND!  
PROTECT BIRD HABITATS!

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Gulls are monogamous during mating season.



Both males and females incubate the eggs and care for the hatchlings.

# Considerations for your project

If it could apply to your work:

1. Identify the “aha moment”: What is the key insight that the audience should take away from the visualization?
2. Find the beginning, including the Hook (the key point of interest to start the narrative) and the setting.
3. Choose rising insights, to build up to the “aha moment.”
4. Do you want to empower the audience to act by creating a set of next steps and/or a clear call to action.

**“Analogies, it is true, decide nothing,  
but they can make one feel more  
at home.”**

**- Sigmund Freud**



# Using analogies

## **Verify you have a solid analogy**

- Is it relatable?
- Is it sound?
- Is it clear?
- Is it concise?
- Is it interesting?



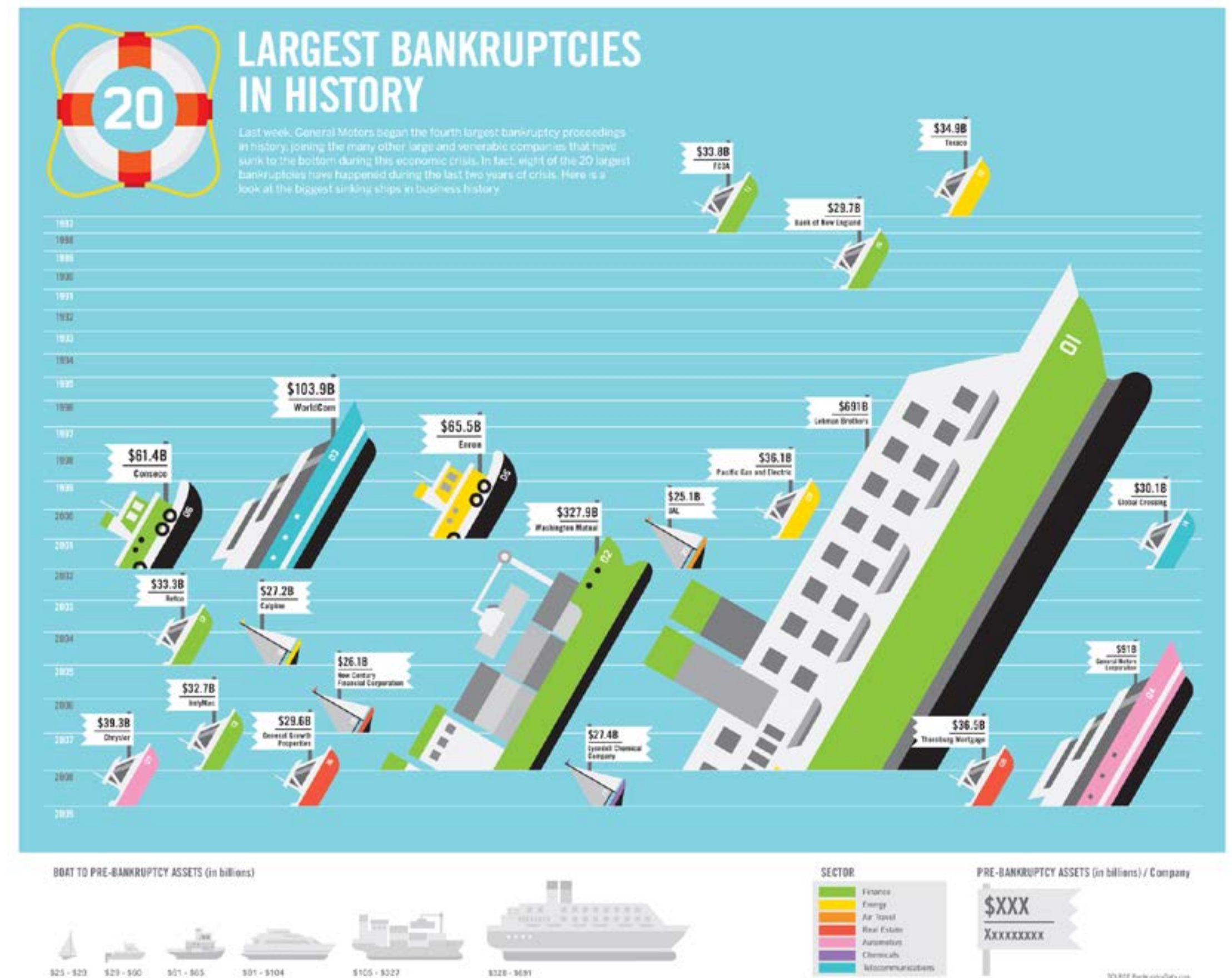


# Using analogies

Good Magazine

## Verify you have a solid analogy

- Is it relatable?
- Is it sound?
- Is it clear?
- Is it concise?
- Is it interesting?





**Questions?**

# types of data visualization

When looking at the data you've chosen, consider what you're aiming to compare, and what different forms of visualization are good at showing.

Many different forms can be viewed at [datavizproject.com](http://datavizproject.com)

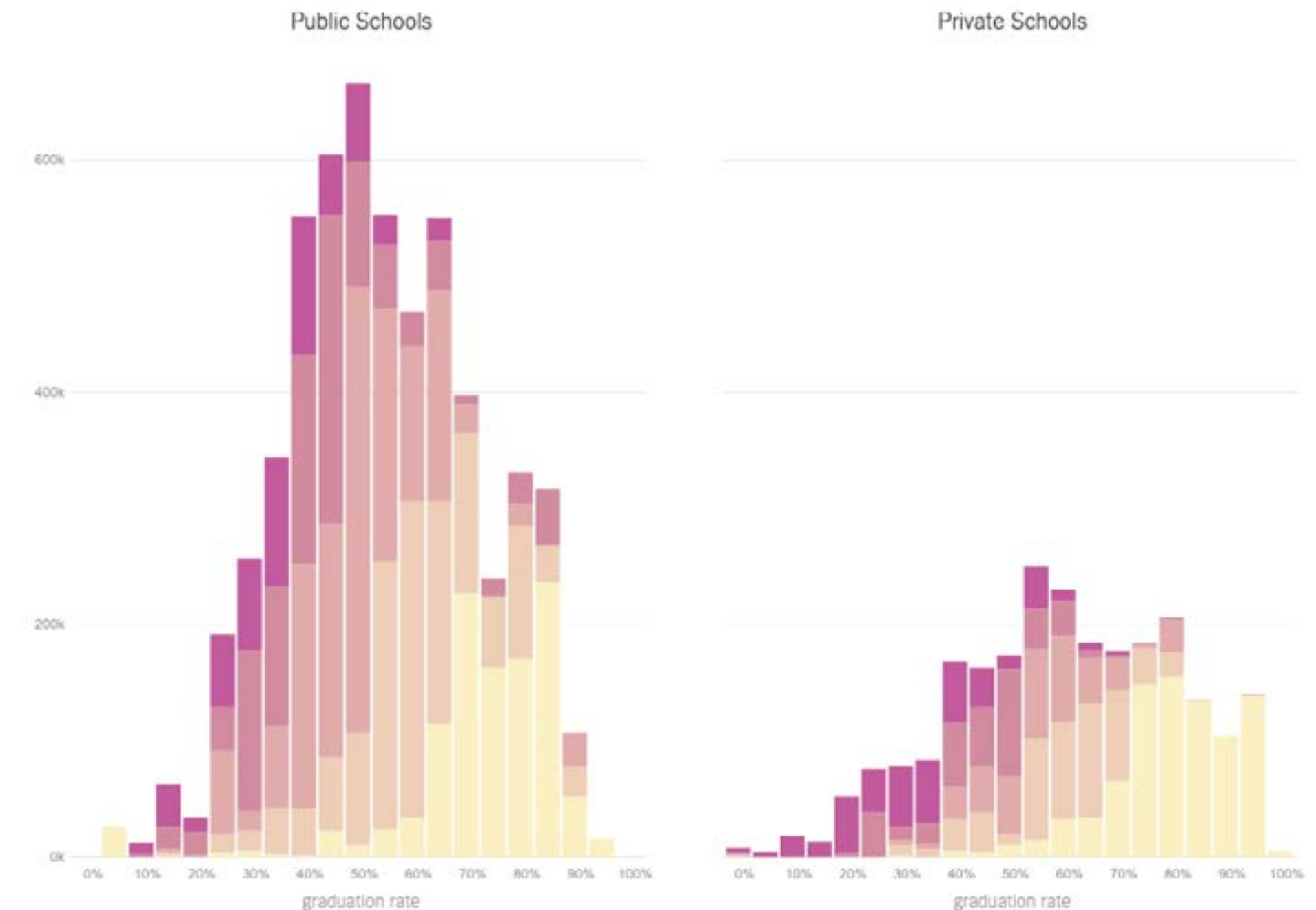
New York Times

## Taking a Chance

Colleges with the lowest graduation rates also teach the poorest.

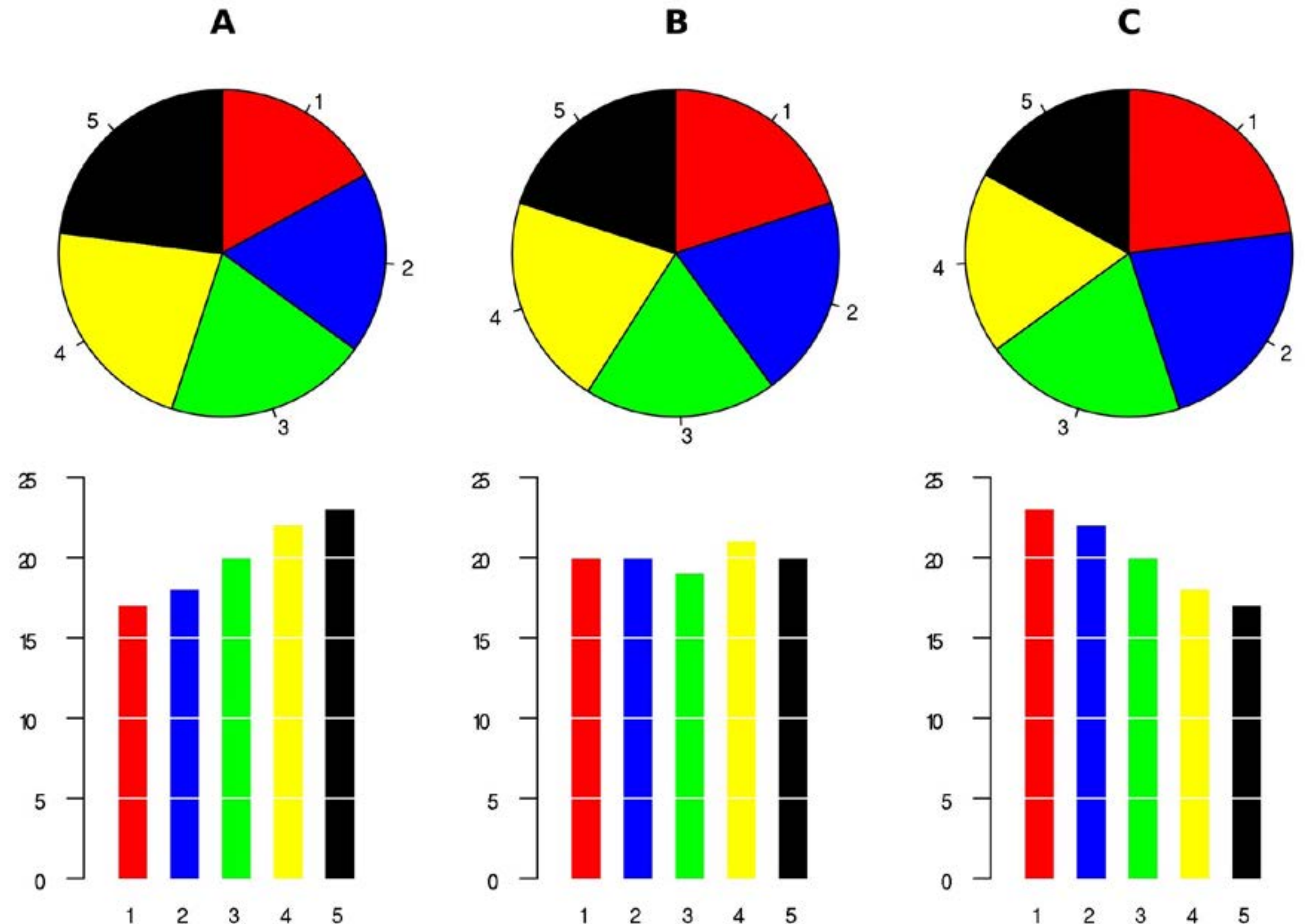
### Percentage of Students Who Receive Pell Grants

0-24 24-33 33-41 41-50 50+ pct.



# Types of data visualization

It can be difficult to compare values in Pie charts. Only use them when you have a few amounts to compare.



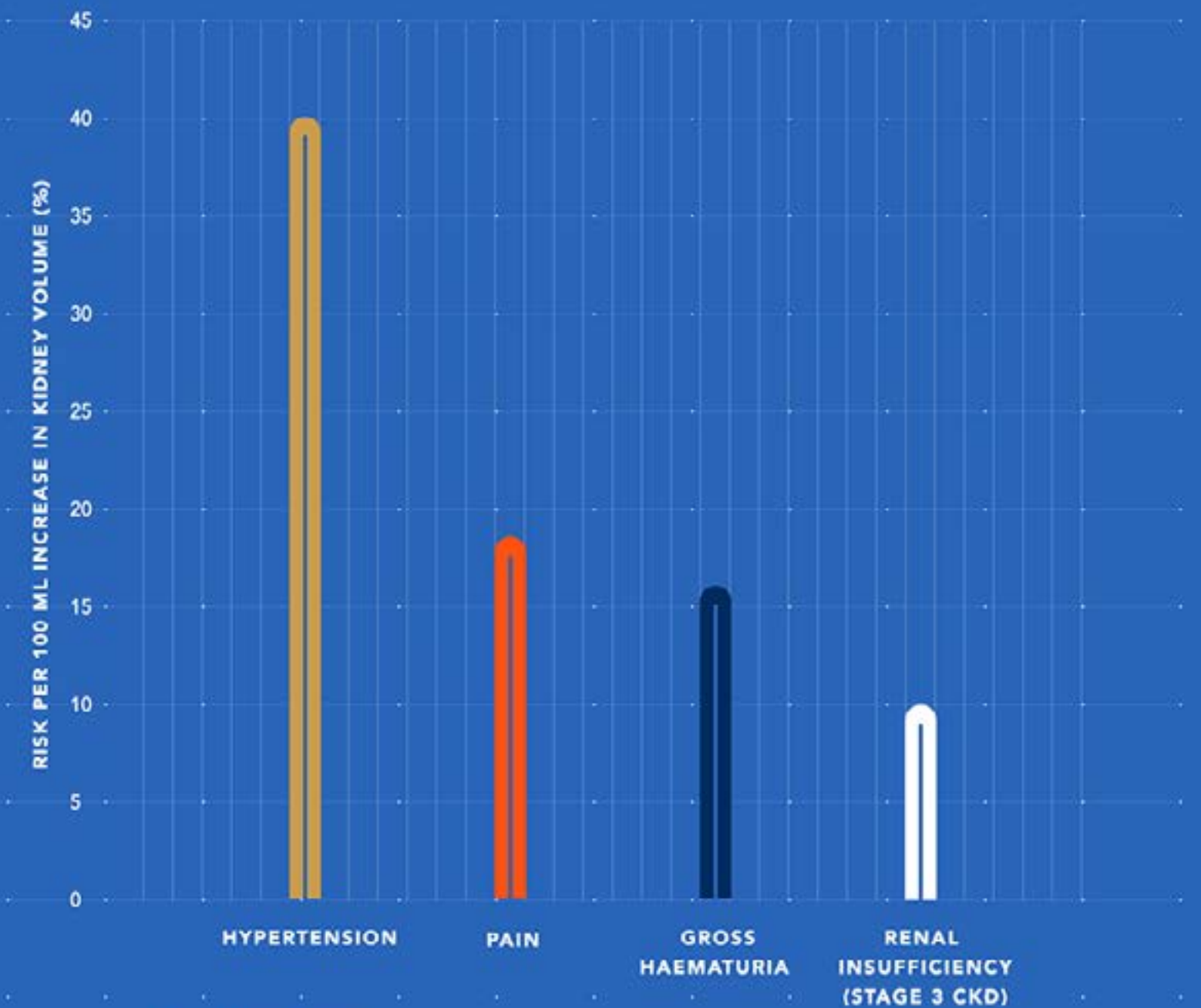
# Types of data visualization

Jinarc

You can find interesting ways to display conventional forms

## Risk of clinical events with increasing kidney volume (CRISP\* data) <sup>3</sup>

For every 100 mL increase in kidney volume, there is a 10–40% increase in the risk of ADPKD-related clinical events <sup>3</sup>



\* CRISP is a long-term longitudinal study of ADPKD progression in adult volunteers (n=241) with well-preserved renal function at the time of enrolment. <sup>1,4</sup>  
CRISP, Consortium of Radiologic Imaging Studies of Polycystic Kidney Disease.

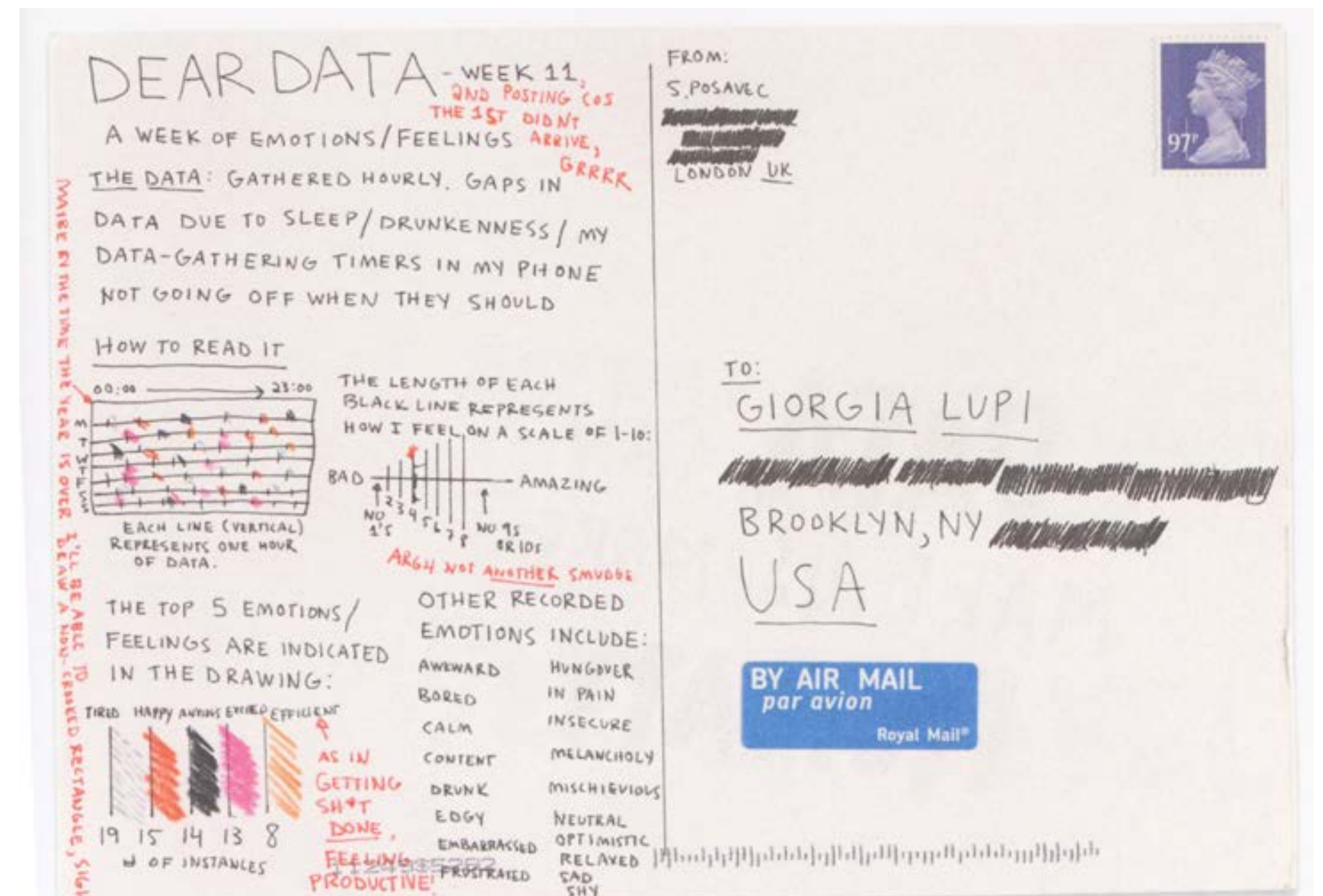
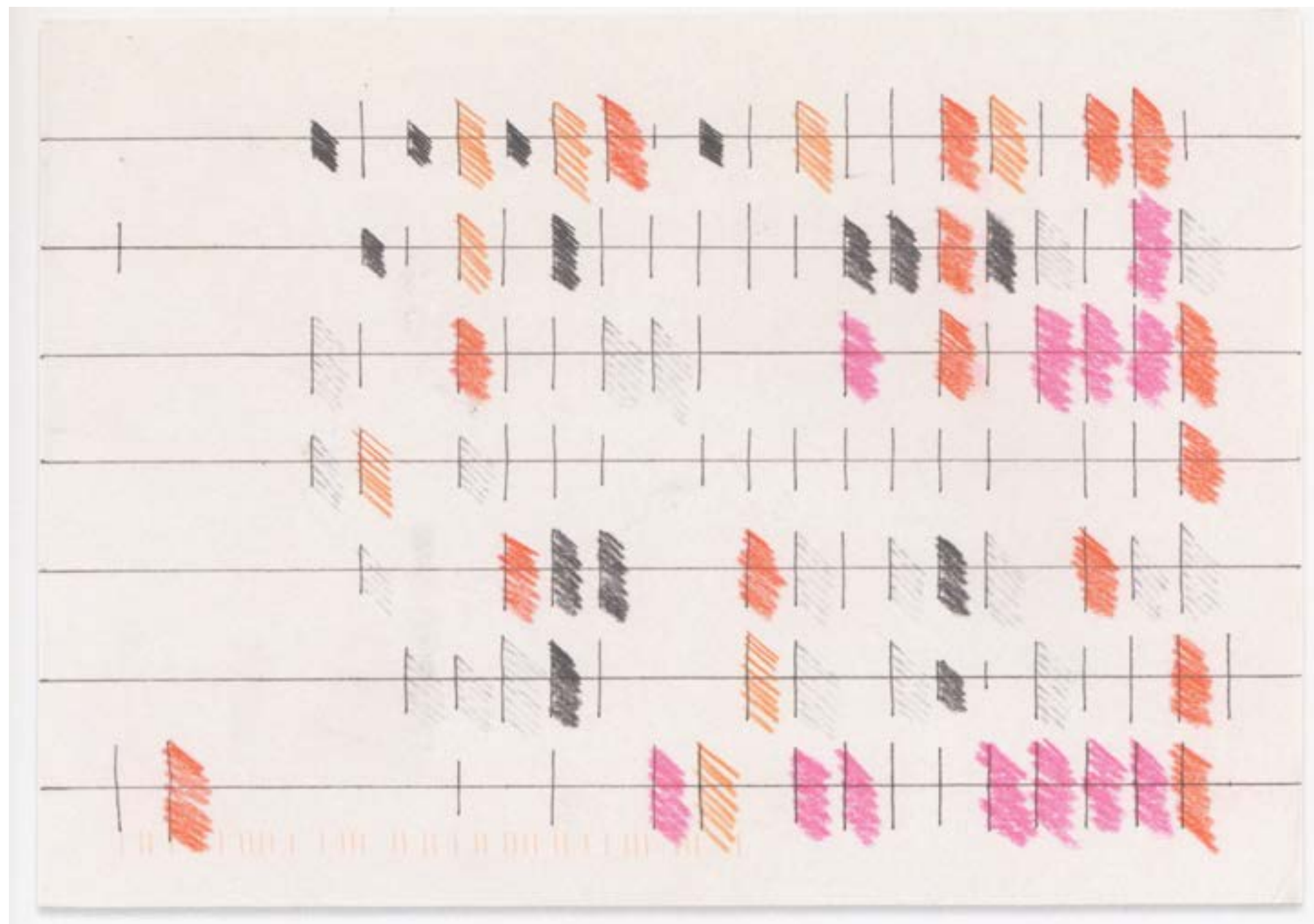
Adapted from reference 3.



# Types of data visualization

You can find interesting ways to display conventional forms

Stephanie Posavek



# Types of data visualization

- Temporal
- Hierarchical
- Spacial
- Textual
- Relational

Bloomberg

“**The Force Awakens**” could produce **\$9.6 billion** in revenue from worldwide ticket sales, merchandise, and home entertainment in roughly the first year of release.





# Types of data visualization

## Hierarchical

Tree maps compare data in nested rectangles. Rectangles can be grouped by category.

Other hierarchical visualizations include Sunburst diagrams and Voronoi diagrams.

Bloomberg

“**The Force Awakens**” could produce **\$9.6 billion** in revenue from worldwide ticket sales, merchandise, and home entertainment in roughly the first year of release.



# Types of data visualization

The Economist

Temporal  
Hierarchical  
Spatial  
Textual  
Relational

## European asylum seeker application decisions

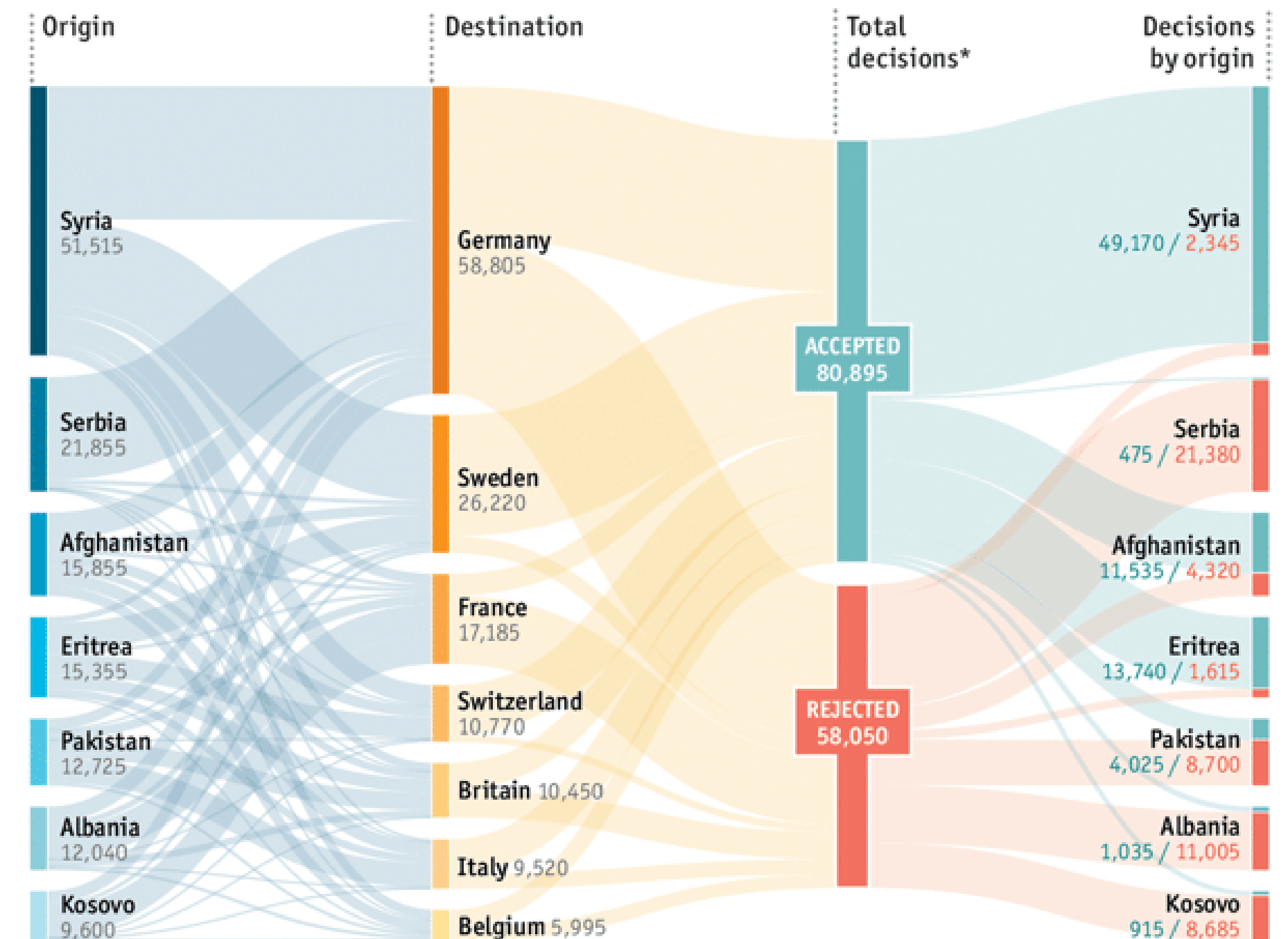
Main origin and destination countries

Total asylum decisions

2012 316,625

2014 388,620

2014





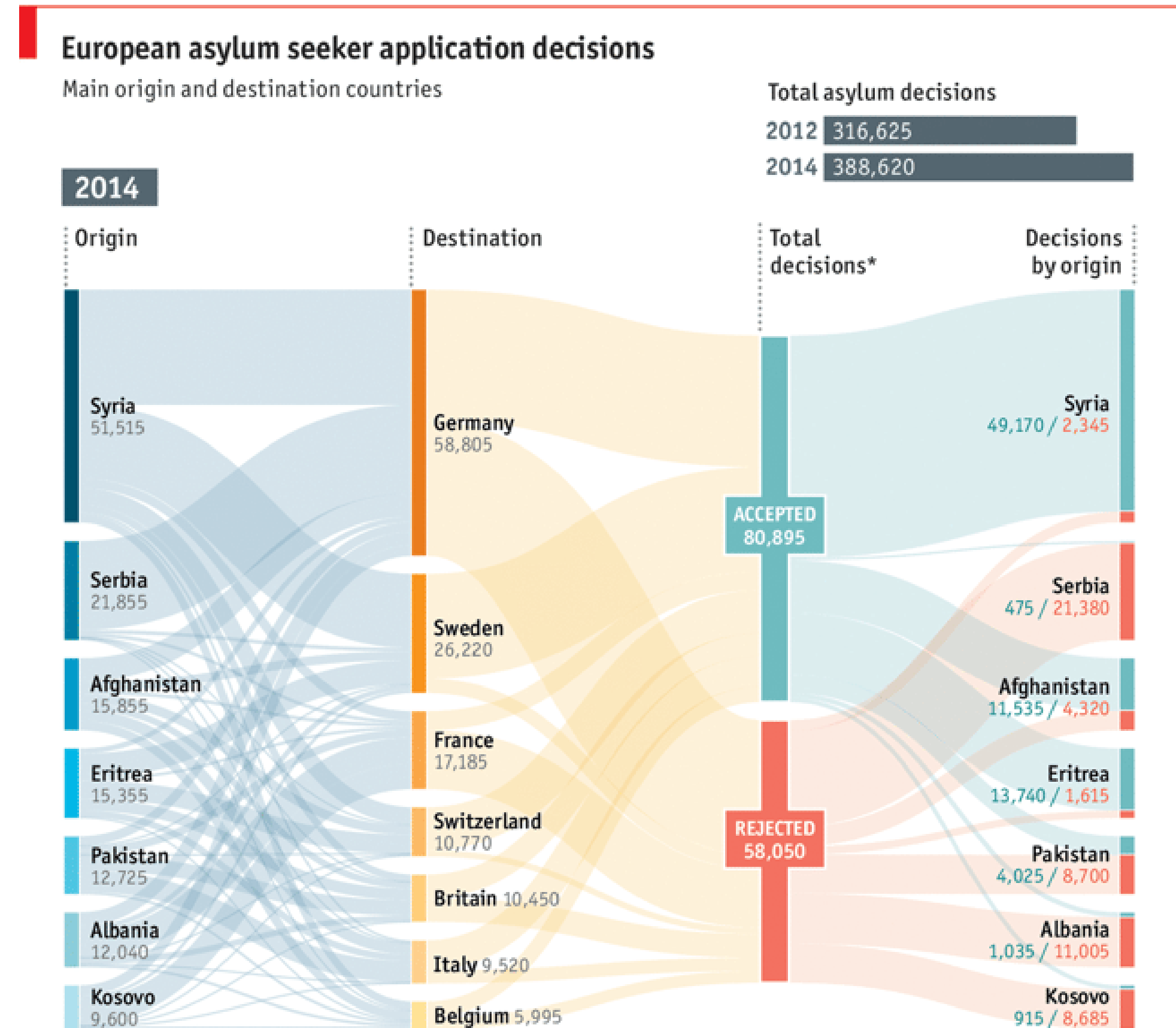
# Types of data visualization

The Economist

## Relational

An alluvial diagram can represent how a network structure changes.

Chord diagrams are also an example of relational data visualizations



# Types of data visualization

Temporal

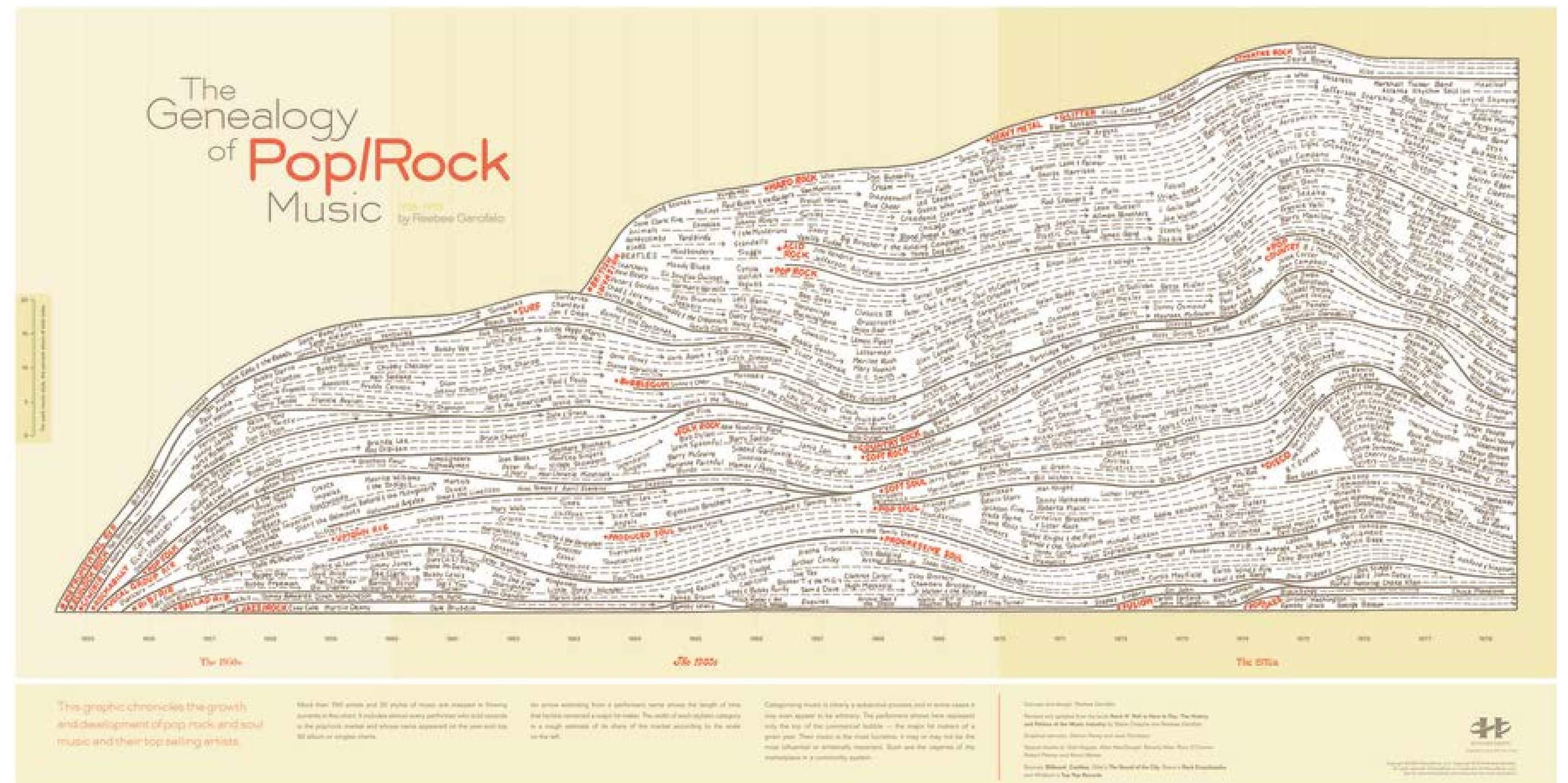
Hierarchical

Spacial

Textual

Relational

Reebee Garofalo

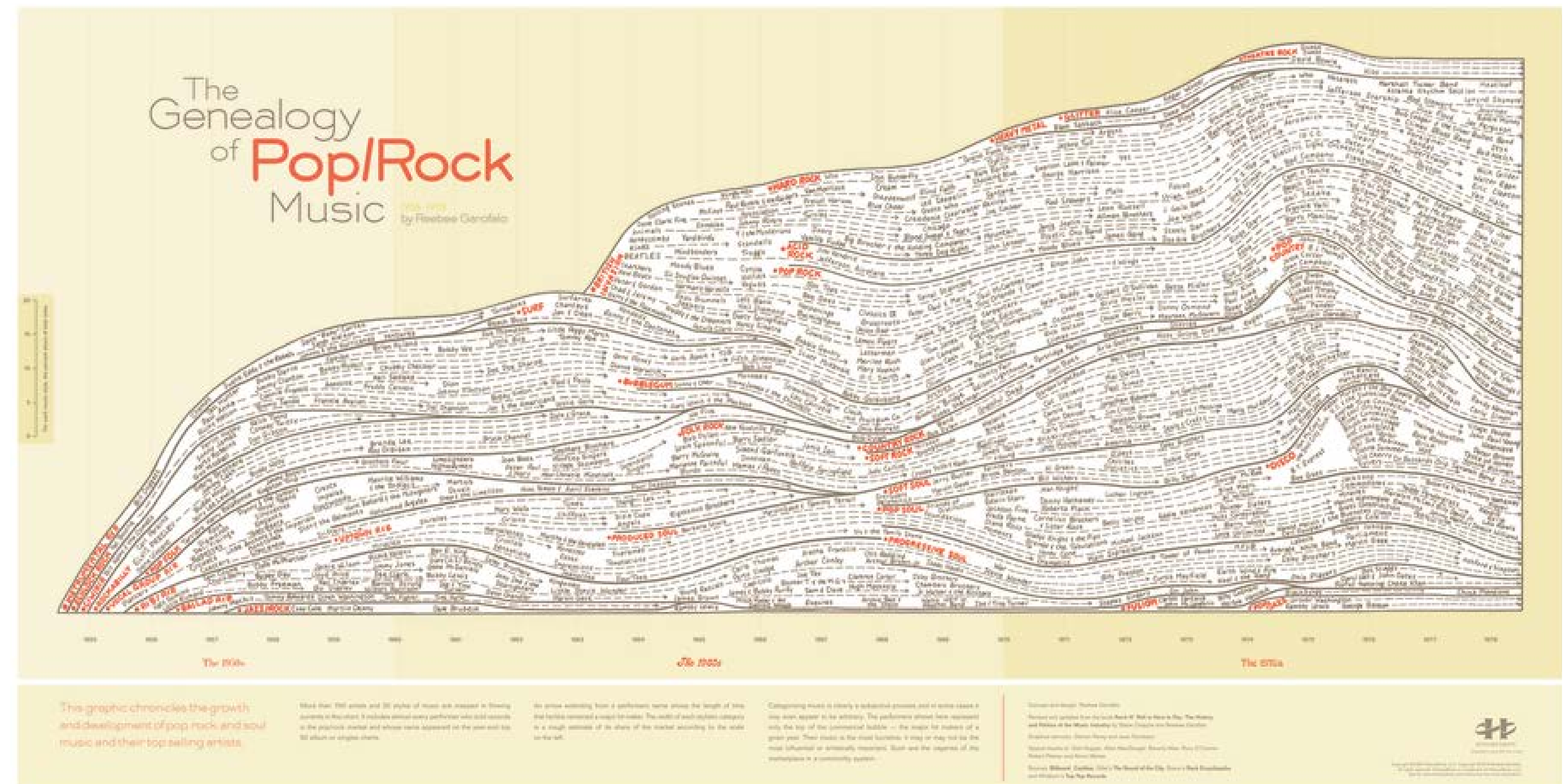


# Types of data visualization

# Temporal

# Reebee Garofalo

A stacked area chart is useful for comparing the change in multiple variables over time.

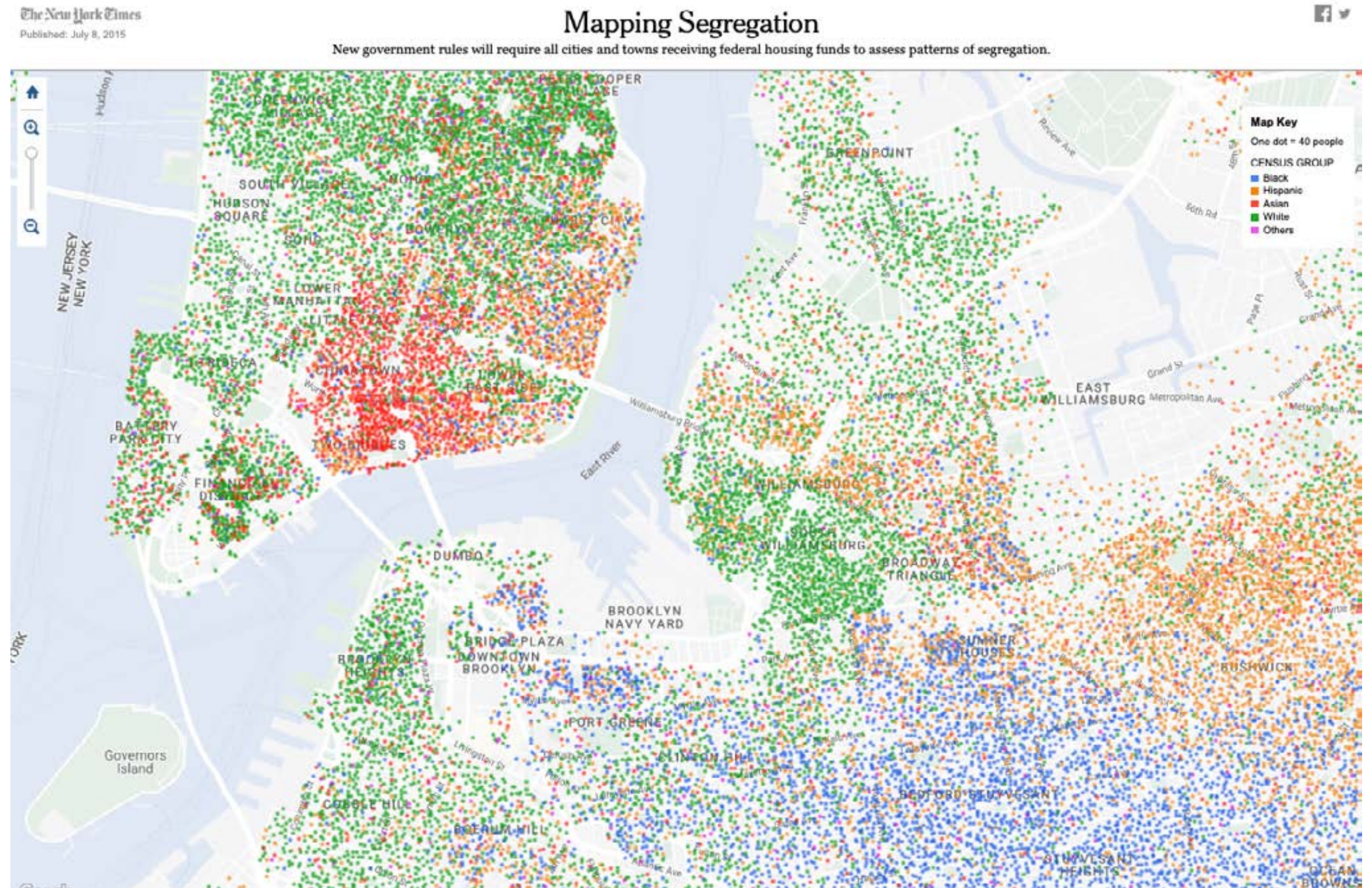




# Types of data visualization

New York Times

Temporal  
Hierarchical  
Spatial  
Textual  
Relational



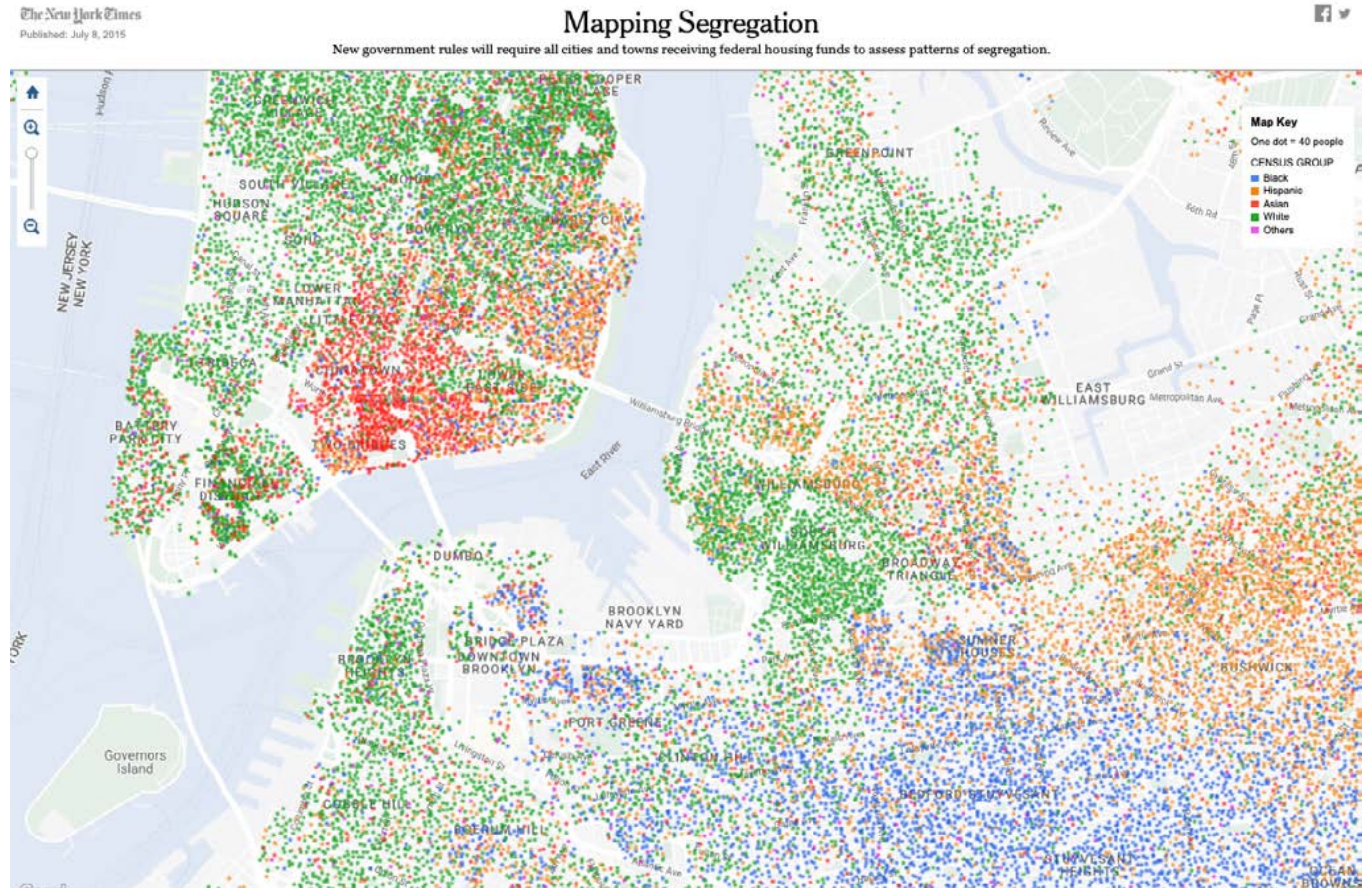


# Types of data visualization

New York Times

## Spatial

A dot density map uses a symbol to represent a feature at a location. The amount of dots in an area indicates high or low concentration.

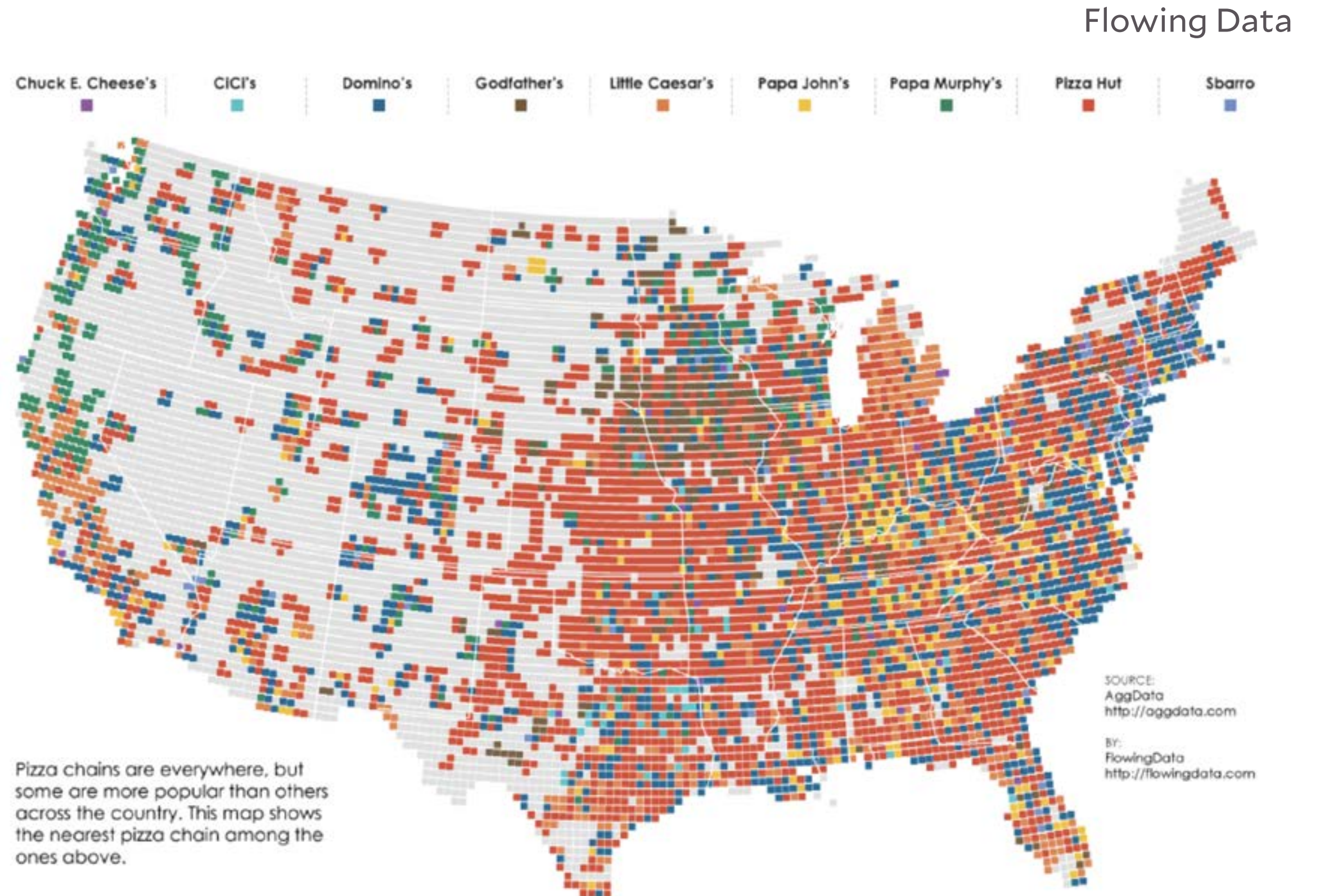




# Types of data visualization

## Spatial

A choropleth map can visualize how a measurement changes across a geographic area by using shading of different regions



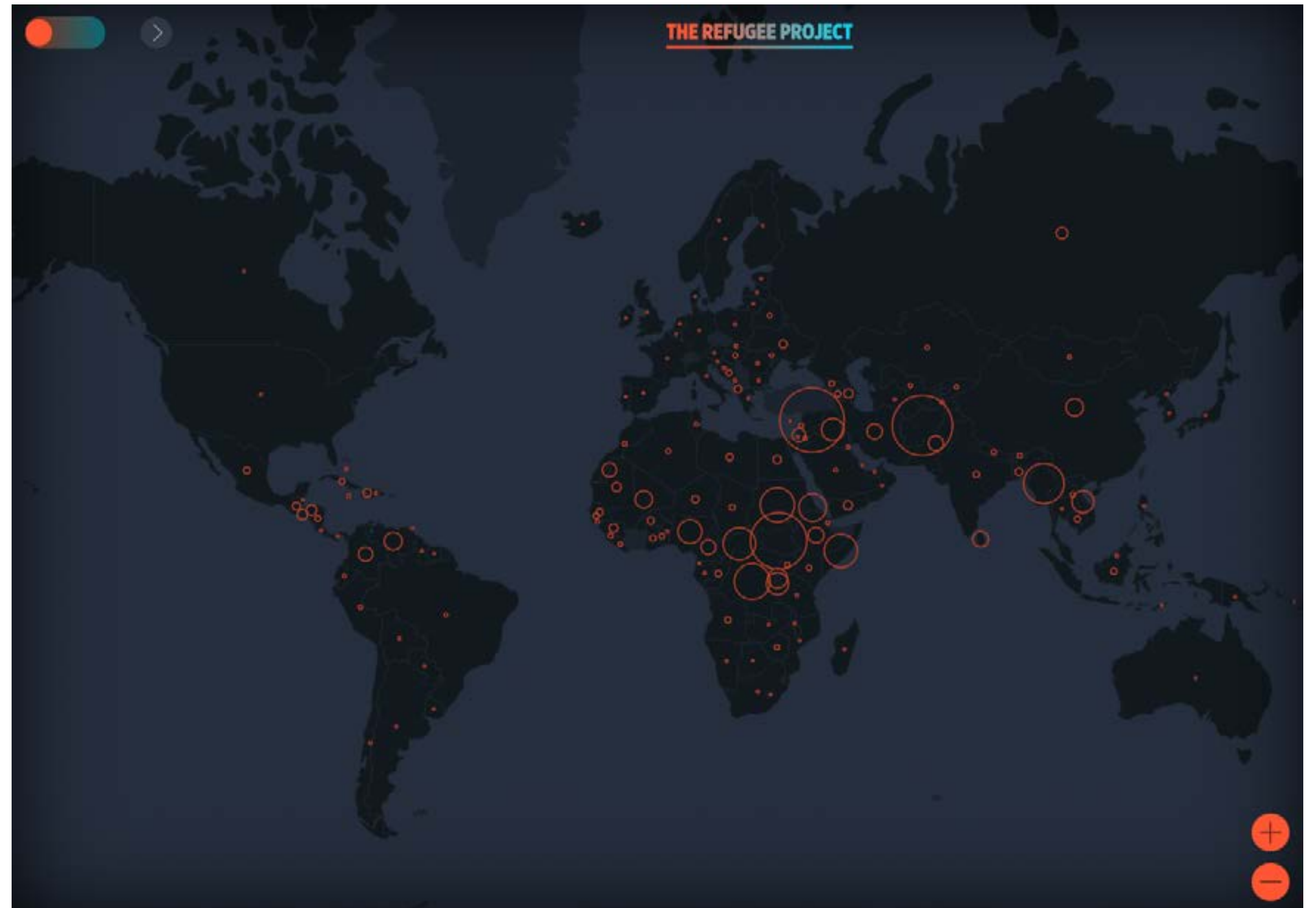


# Types of data visualization

The Refugee Project

## Spatial

A bubble map is used to visualize location and proportion.

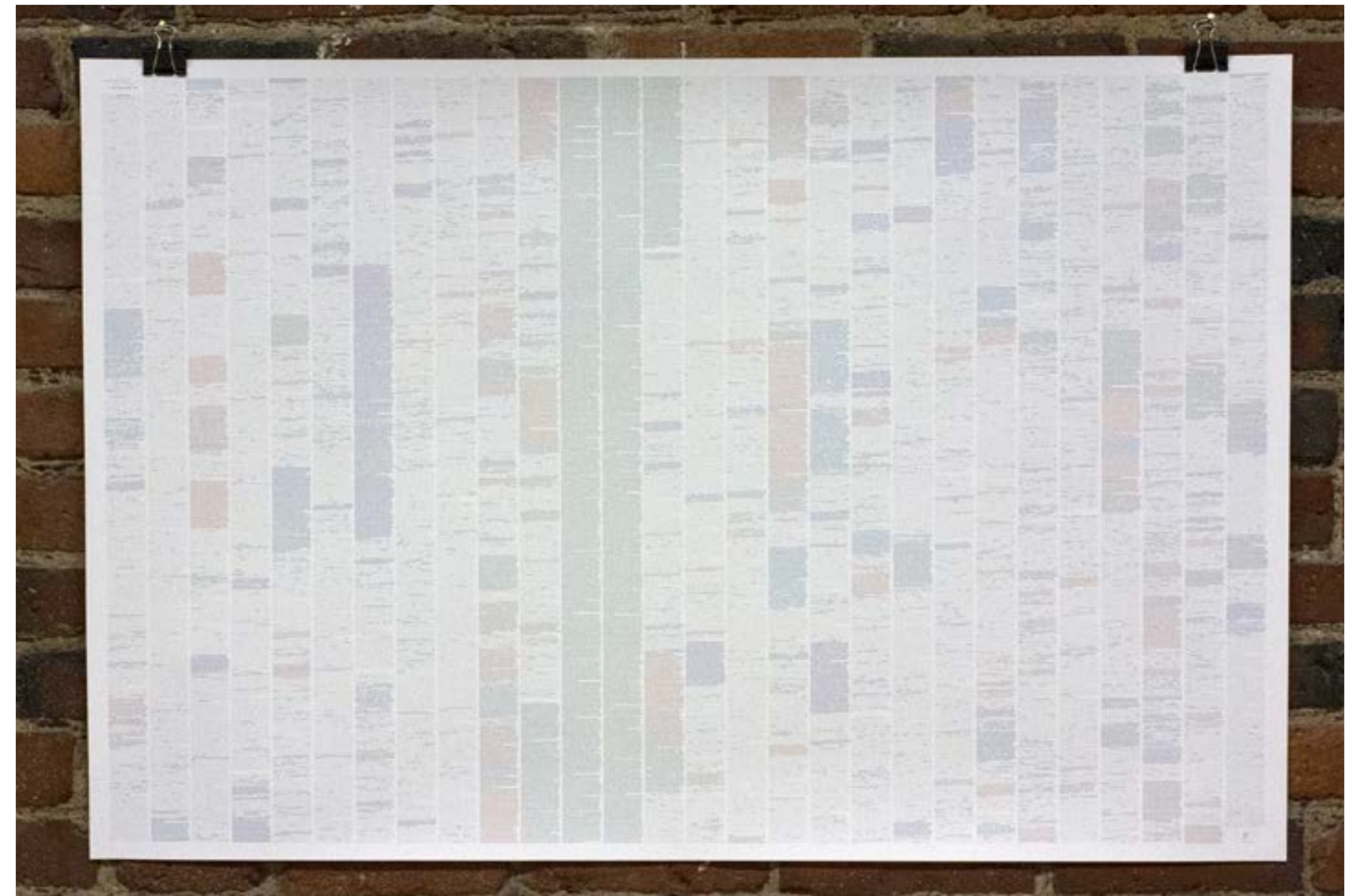


# Types of data visualization

Ben Fry

## Textual

Using text as the data.









# Types of data visualization

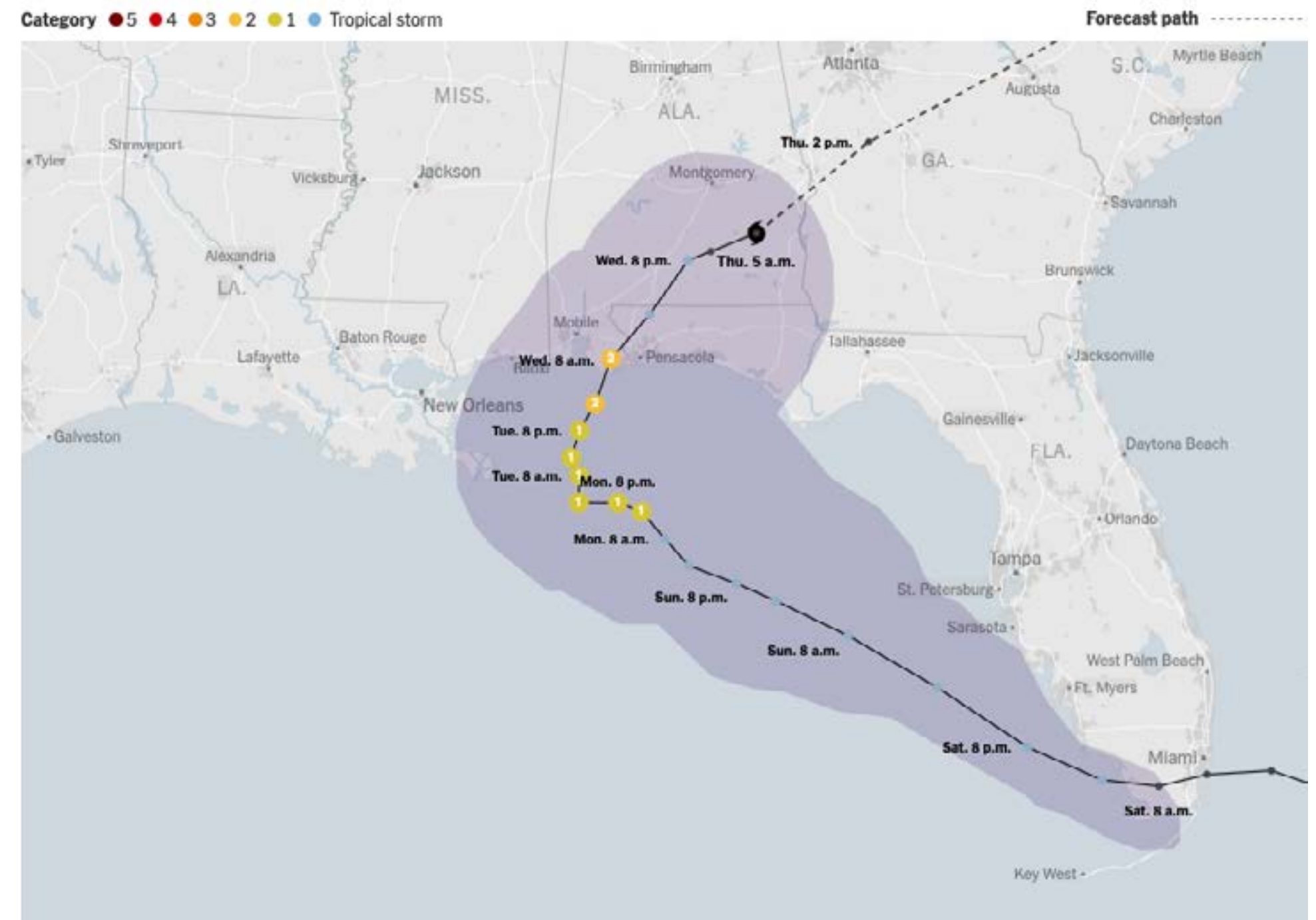
New York Times

A route map has starting and ending points on geographic data. It's possible to indicate time or other values in the route.

## Map: Hurricane Sally's Path and Rainfall

By Matthew Bloch, Scott Reinhard and Tim Wallace Updated Sept. 17, 2020

Hurricane Sally made landfall on the Gulf Coast Wednesday morning as a Category 2 storm. Read our [live coverage here](#) >

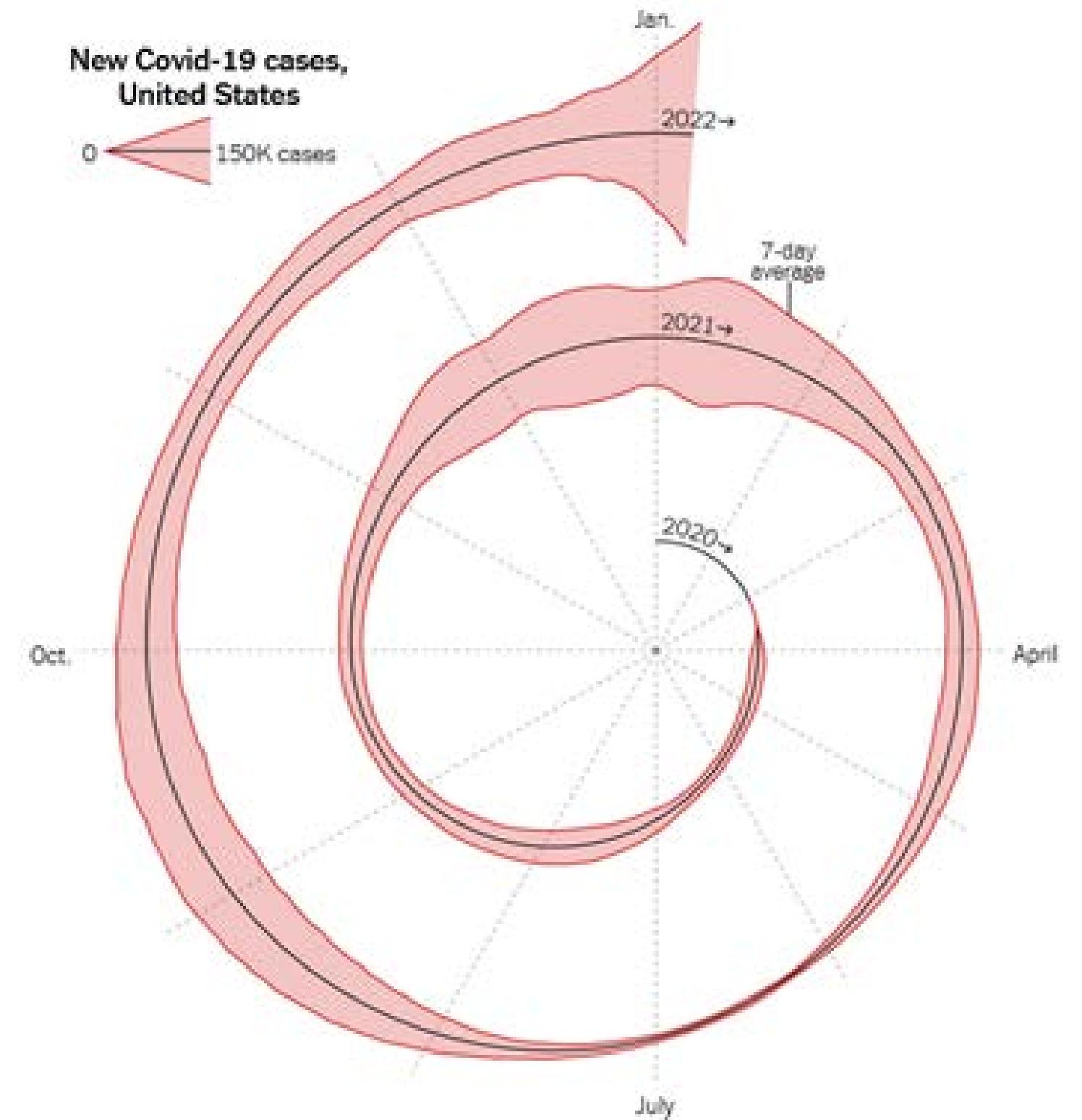


# Types of data visualization

The controversial New York Times spiral graph.

## Here's When We Expect Omicron to Peak

Jan. 6, 2022



**For next week**

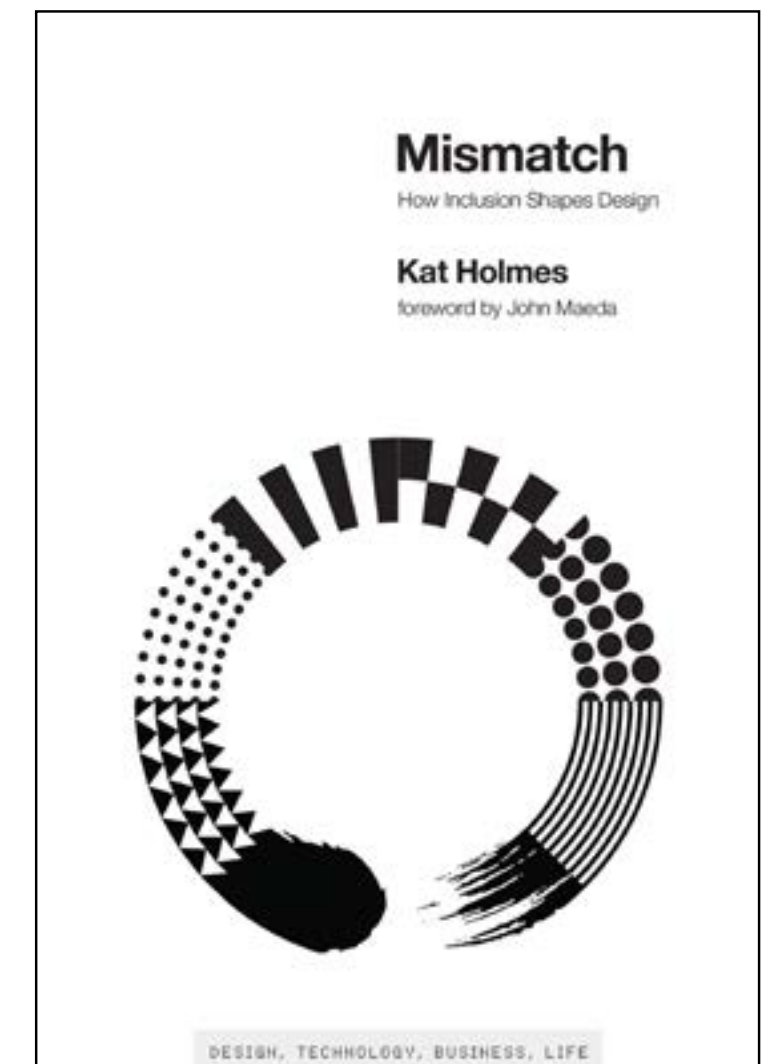
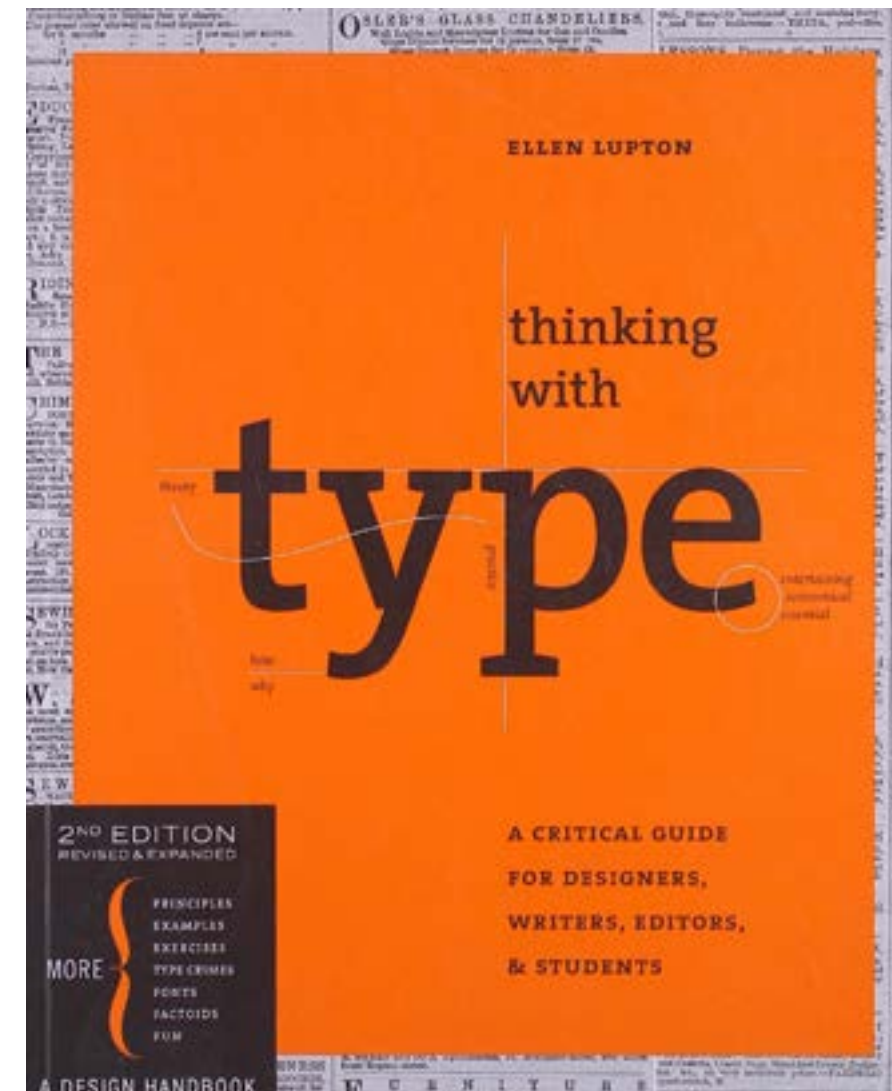


# Peer feedback

Post your final project sketches and hierarchy in Canvas and comment on at least two other people's projects.

# Reading

- Lupton chapter 3 (Grid)
- Holmes chapters 5



# The Final Project

## Part 2 (due session 7)

Create at least half of the “sections” (ie: pages, segments of a poster, etc) including at least 2 forms of data visualization (ie: hierarchical, temporal, spatial, spatio-temporal, etc). Make sure that together they address at least 5 of the themes.

Your submission will be a PDF containing at least half of the “sections” and at least 2 forms of data visualization crafted. They should be:

- Placed in your chosen format
- Created or modified in a design application
- In an art board using your type hierarchy



# The Final Project

## Part 3 (due session 8)

Your submission will be a PDF with all completed “sections” including at least 3 forms of data visualization

- placed in your chosen format
- created or modified in a design application
- using your grid and type hierarchy

With your submission, write a paragraph describing how your Final Project uses at least 5 of the chosen themes (affordances, inclusive design, etc)

Prepare a 5-10 minute presentation of your completed Final Project which you will share in class.

**Questions?**

**Break**