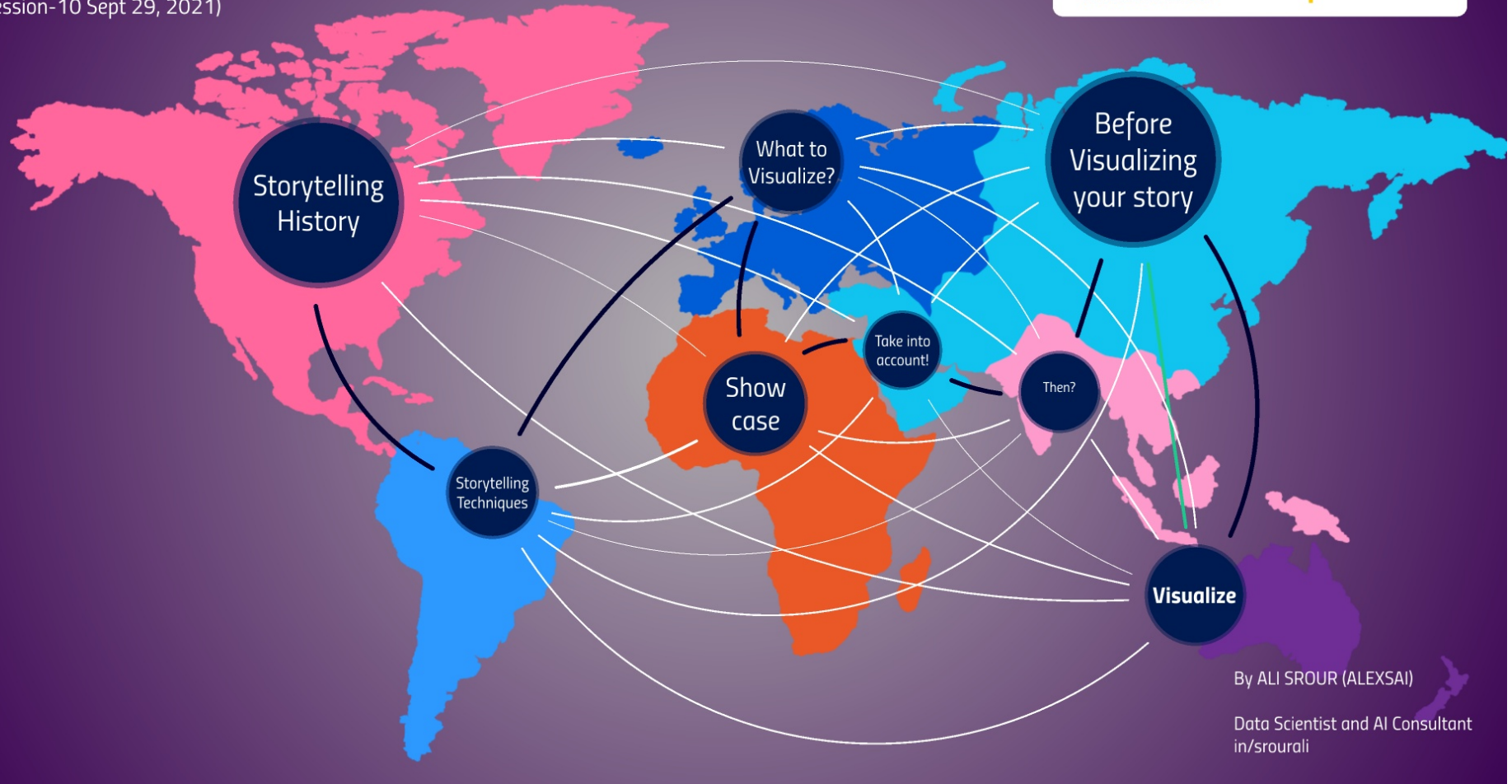


Data Pipeline: Visualization

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VISUALIZATION:

the last step in the data pipeline

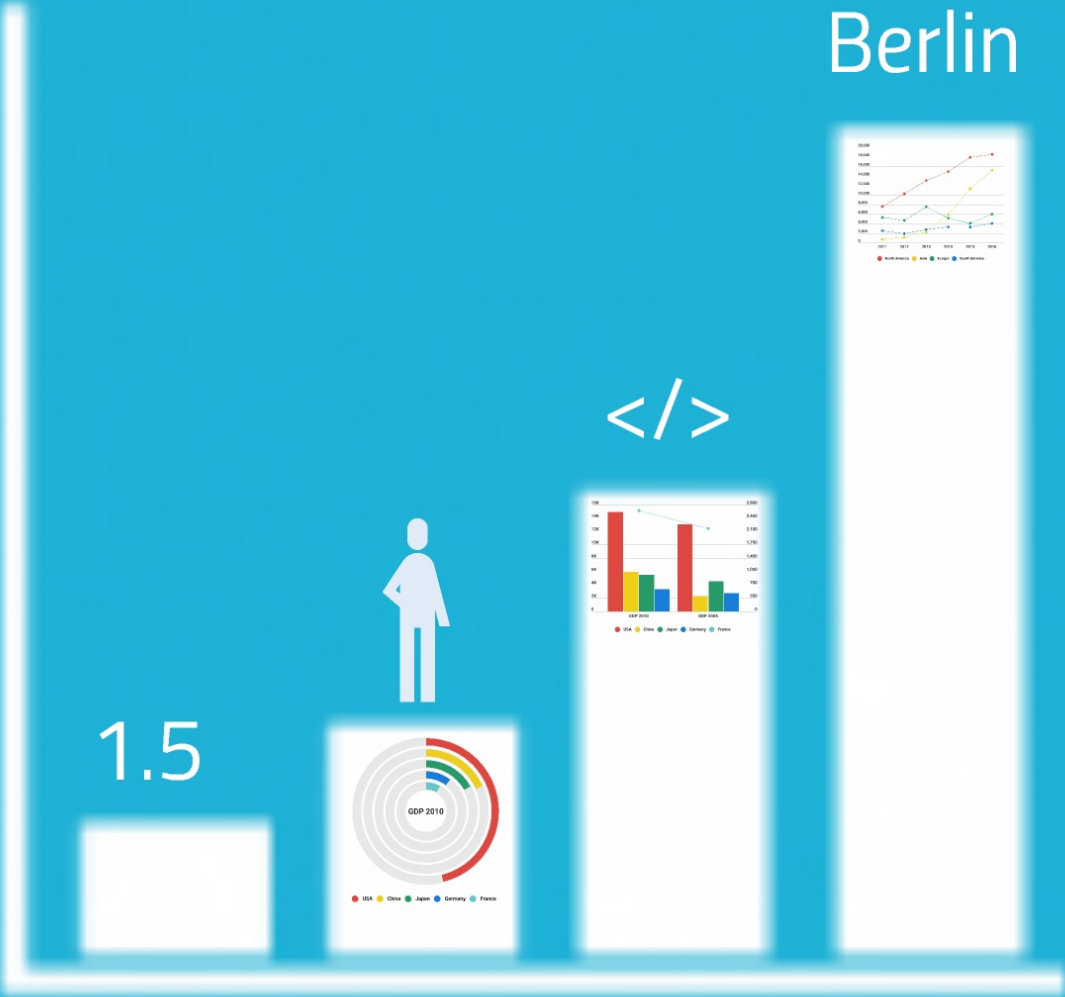


Why?

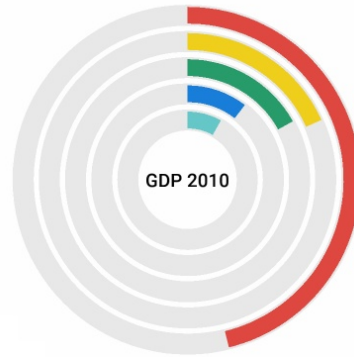
When?

Call!

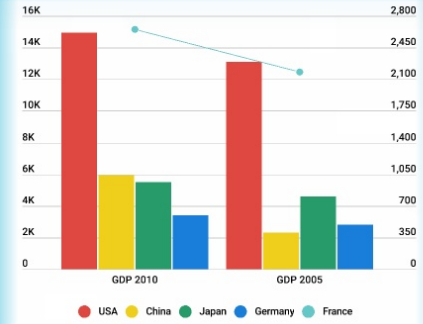
Berlin

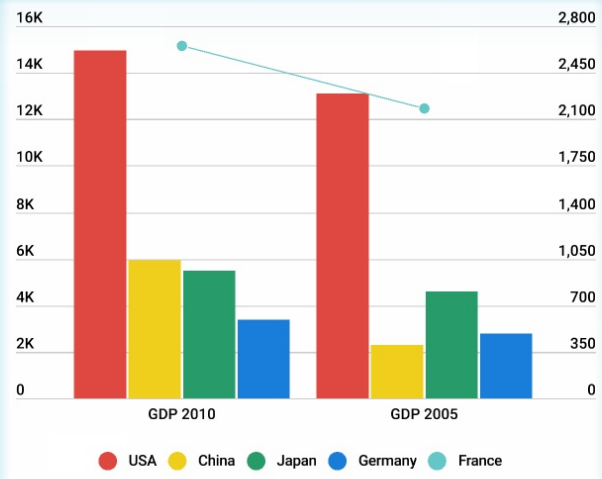


1.5

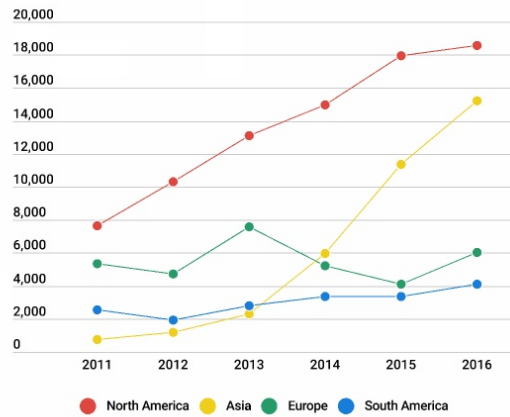


USA China Japan Germany France





Berlin



VISUALIZATION:

the last step in the data pipeline



Why?

When?

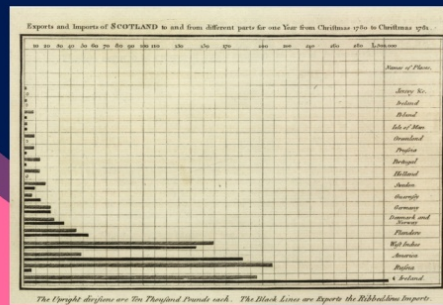
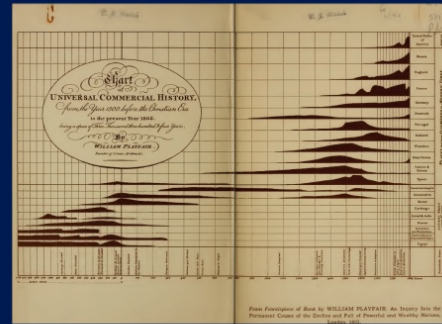
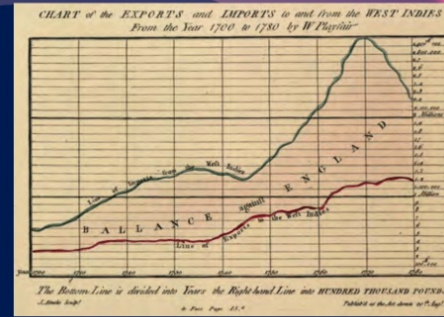
Call!

Why Stories?

**People hear statistics,
but they feel stories.**

—Brent Dykes | Director of Data Strategy, Domo

History



*CHART of the EXPORTS and IMPORTS to and from the WEST INDIES
From the Year 1700 to 1780 by W Playfair*



The Bottom Line is divided into Years the Right hand Line into HUNDRED THOUSAND POUNDS

J. Smith Sculp.

to Face Page 13.

Published at the Art down St. Aug. 1791

CHART of the EXPORTS and IMPORTS to and from the WEST INDIES
From the Year 1700 to 1780 by W Playfair

1700s

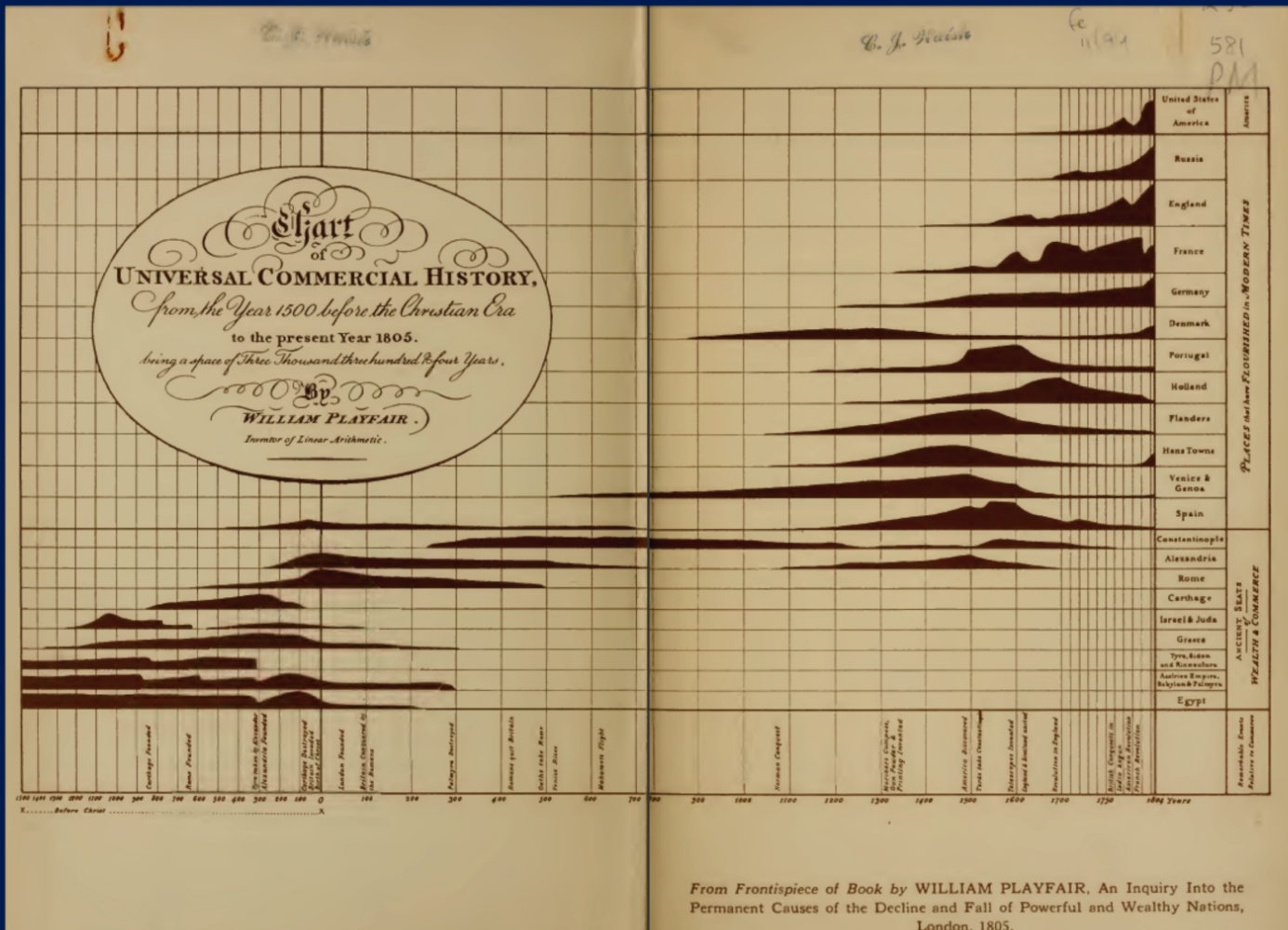


The Bottom Line is divided into Years the Right hand Line into HUNDRED THOUSAND POUNDS

J. Smith Sculp^r

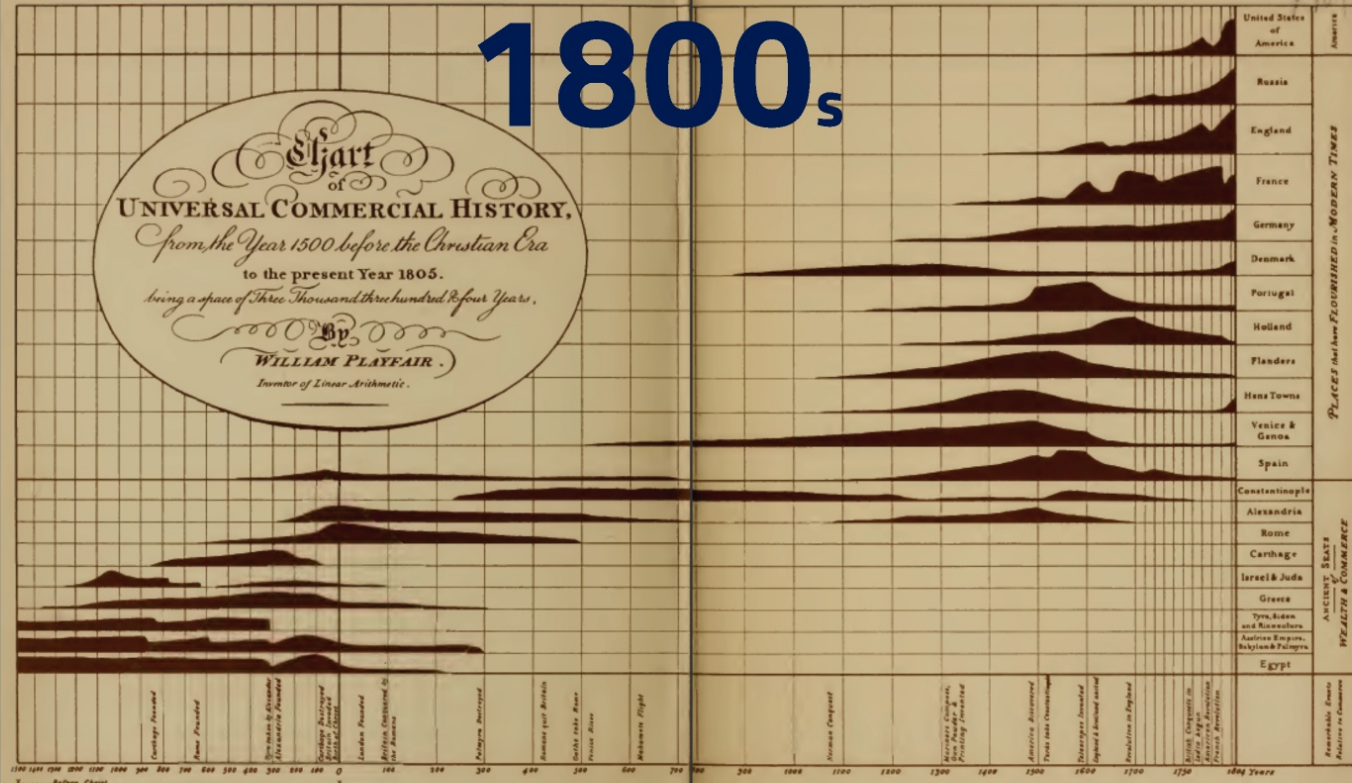
to Face Page 13.^d

Published at the Art down St. Aug^o 1791



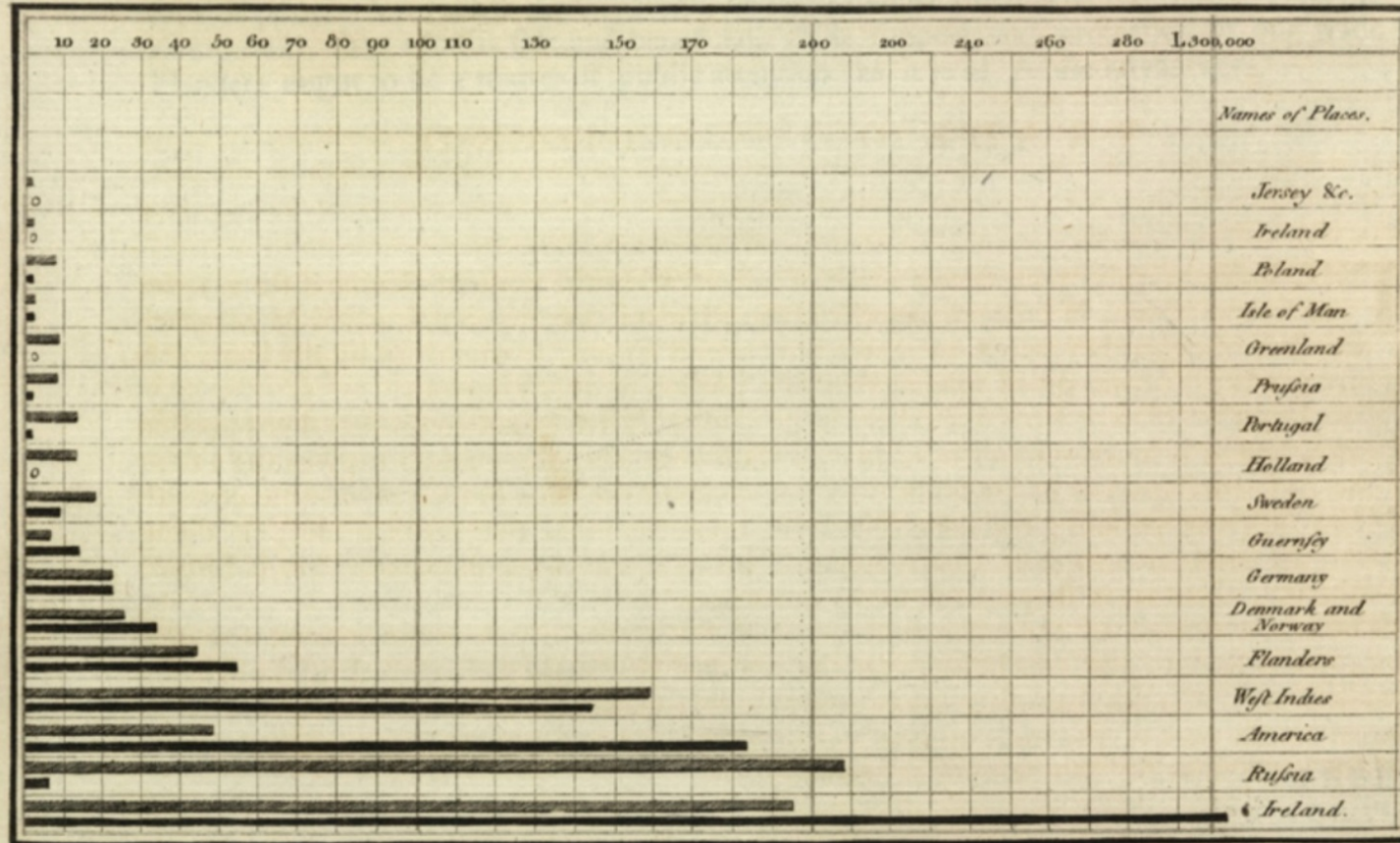
1800s

Chart
of
UNIVERSAL COMMERCIAL HISTORY,
from the Year 1500 before the Christian Era
to the present Year 1805.
being a space of Three Thousand three hundred & four Years.
By
WILLIAM PLAYFAIR.
Inventor of Linear Arithmetick.



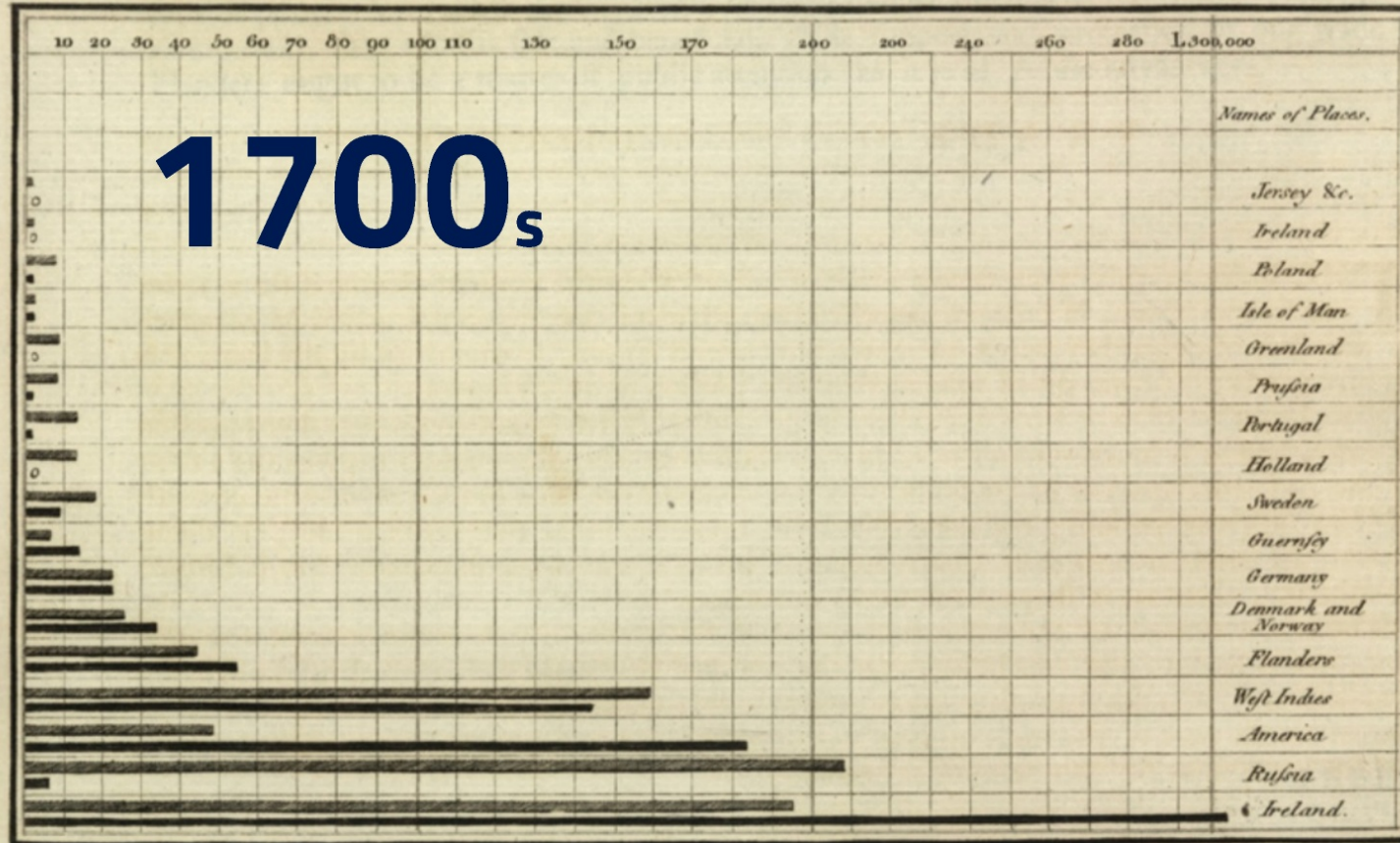
From Frontispiece of Book by WILLIAM PLAYFAIR, An Inquiry Into the Permanent Causes of the Decline and Fall of Powerful and Wealthy Nations, London, 1805.

Exports and Imports of SCOTLAND to and from different parts for one Year from Christmas 1780 to Christmas 1781.



The Upright divisions are Ten Thousand Pounds each. The Black Lines are Exports the Ribbed lines Imports.

Exports and Imports of SCOTLAND to and from different parts for one Year from Christmas 1780 to Christmas 1781.

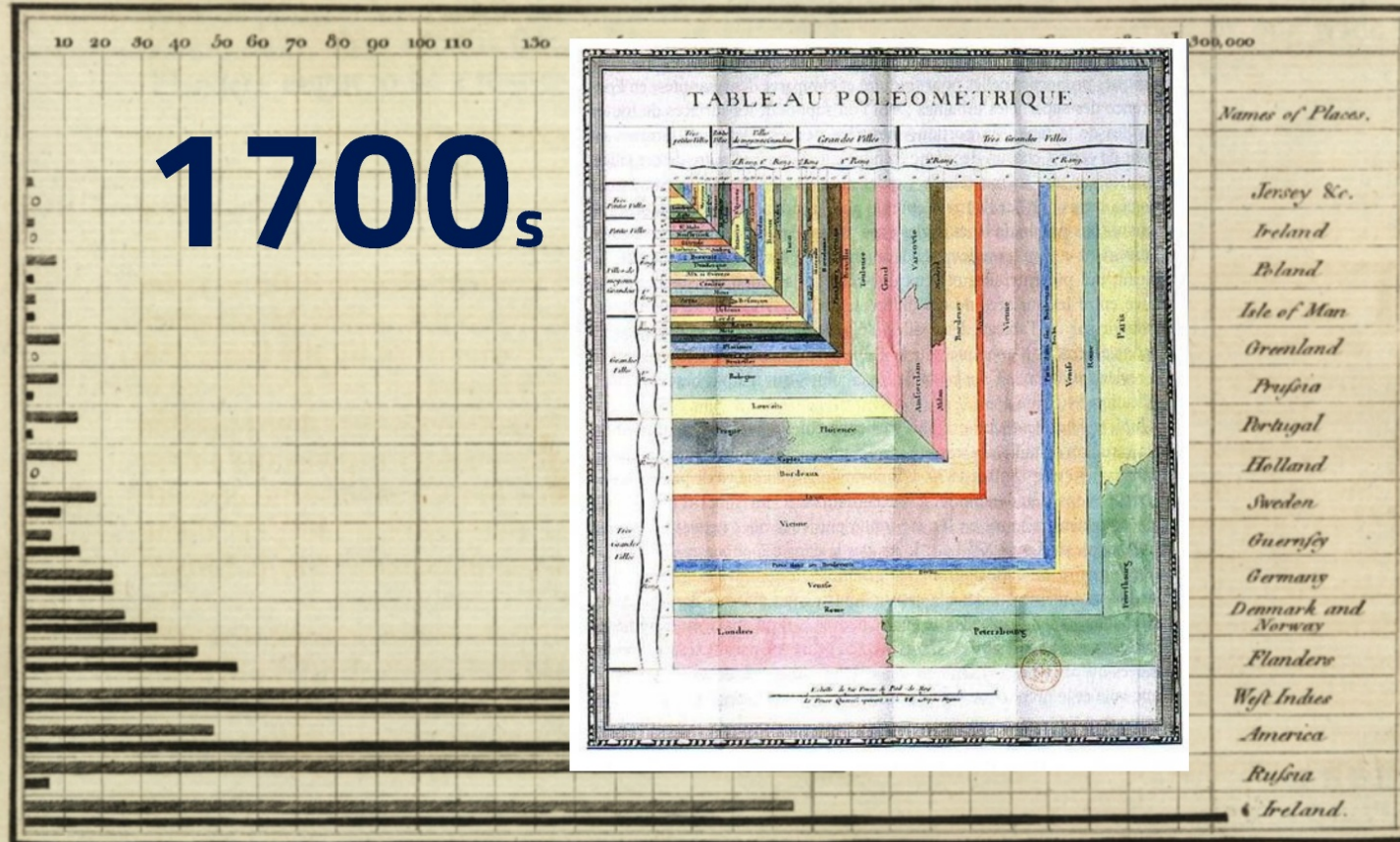


1700s

The Upright divisions are Ten Thousand Pounds each. The Black Lines are Exports the Ribbed lines Imports.

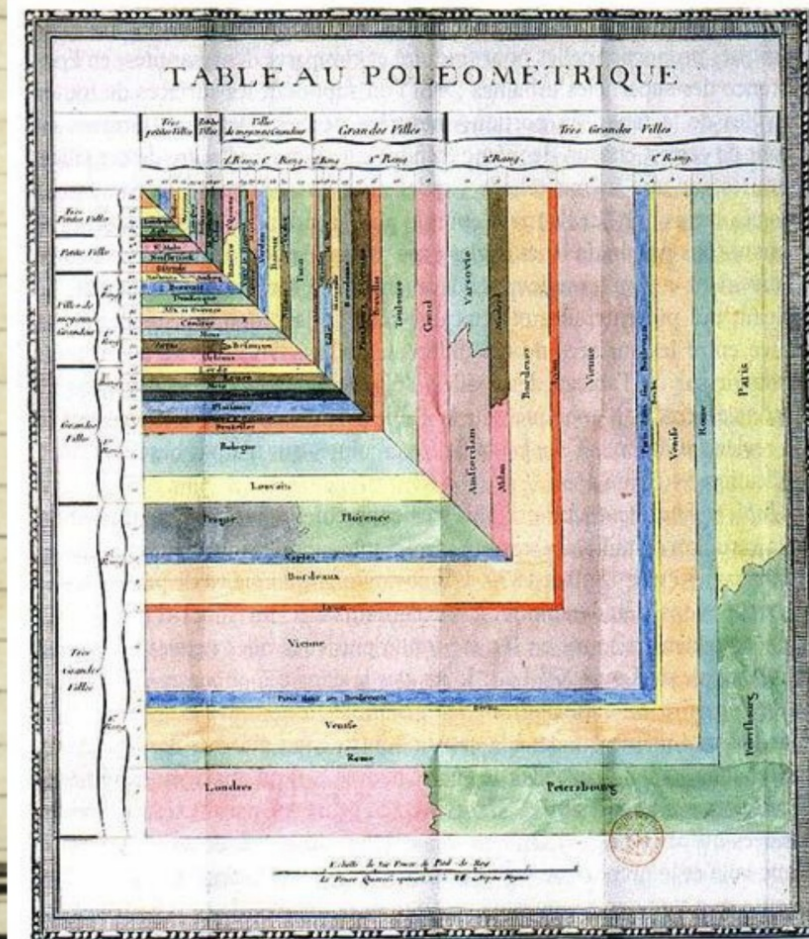
Exports and Imports of SCOTLAND to and from different parts for one Year from Christmas 1780 to Christmas 1781.

1700s



The Upright divisions are Ten Thousand Pounds each. The Black Lines are Exports the Ribbed lines Imports.

1700s



Names of Places.

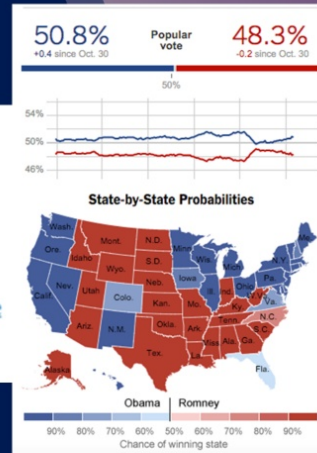
- Jersey &c.*
- Ireland*
- Poland*
- Isle of Man*
- Greenland*
- Prussia*
- Portugal*
- Holland*
- Sweden*
- Guernsey*
- Germany*
- Denmark and Norway*
- Flanders*
- West Indies*
- America*
- Russia*

The wake up call?

The US election was a wake up call for data illiterate journalists

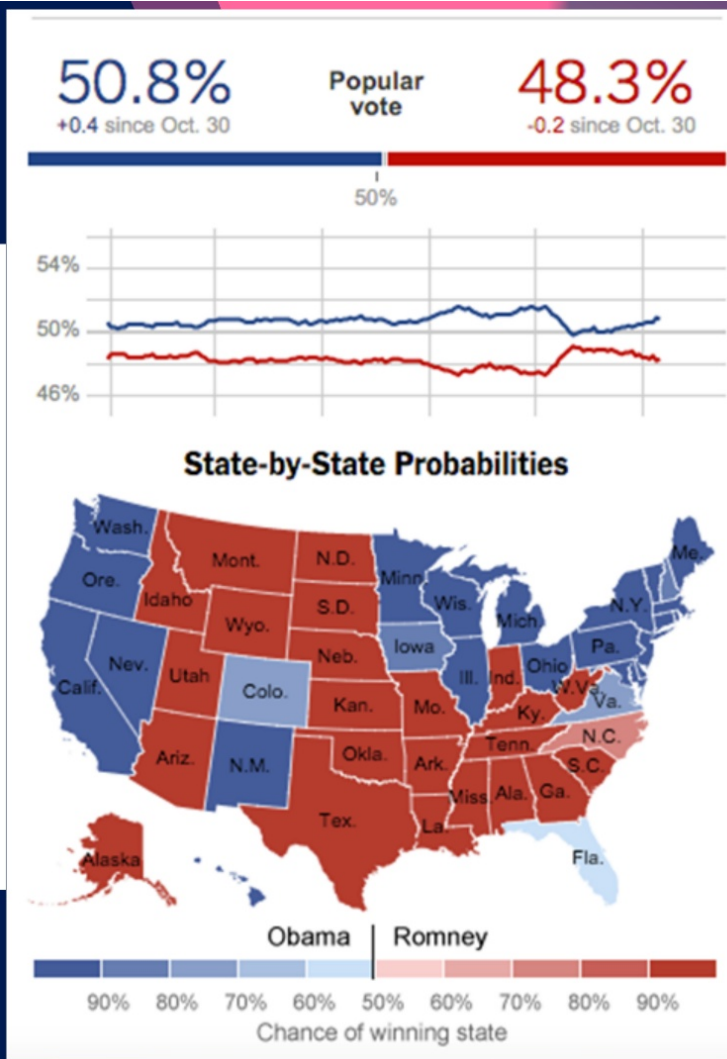
[18 Replies](#)

So [Nate Silver won in 50 states](#); [big data was the winner](#); and [Nate Silver and data won the election](#). And somewhere along the lines some guy called Obama won something, too.



ta

the Silver and data won the
I won something, too.

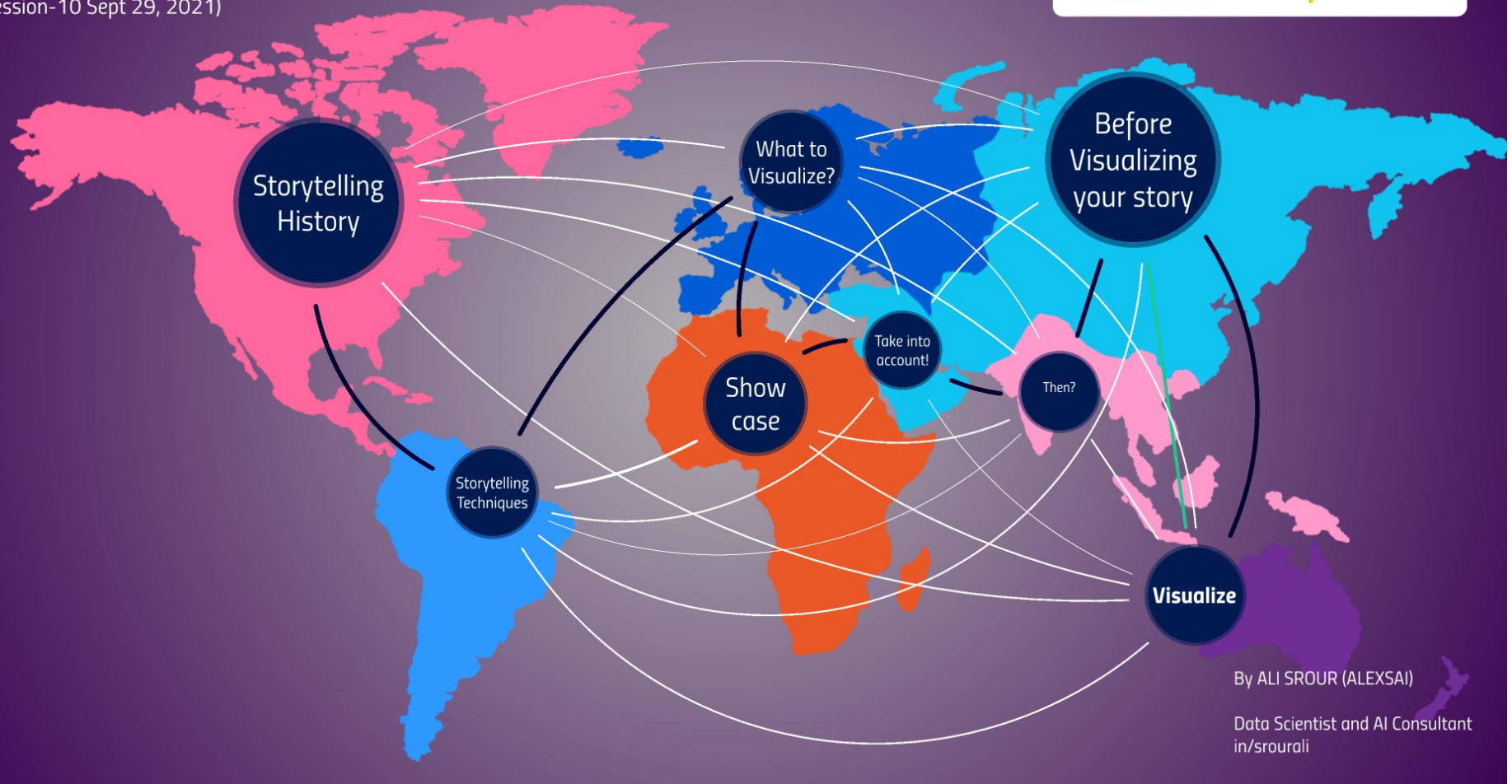


Data Pipeline: Visualization

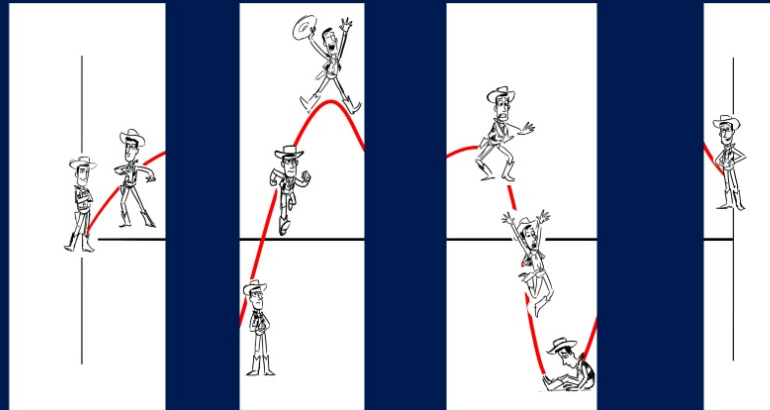
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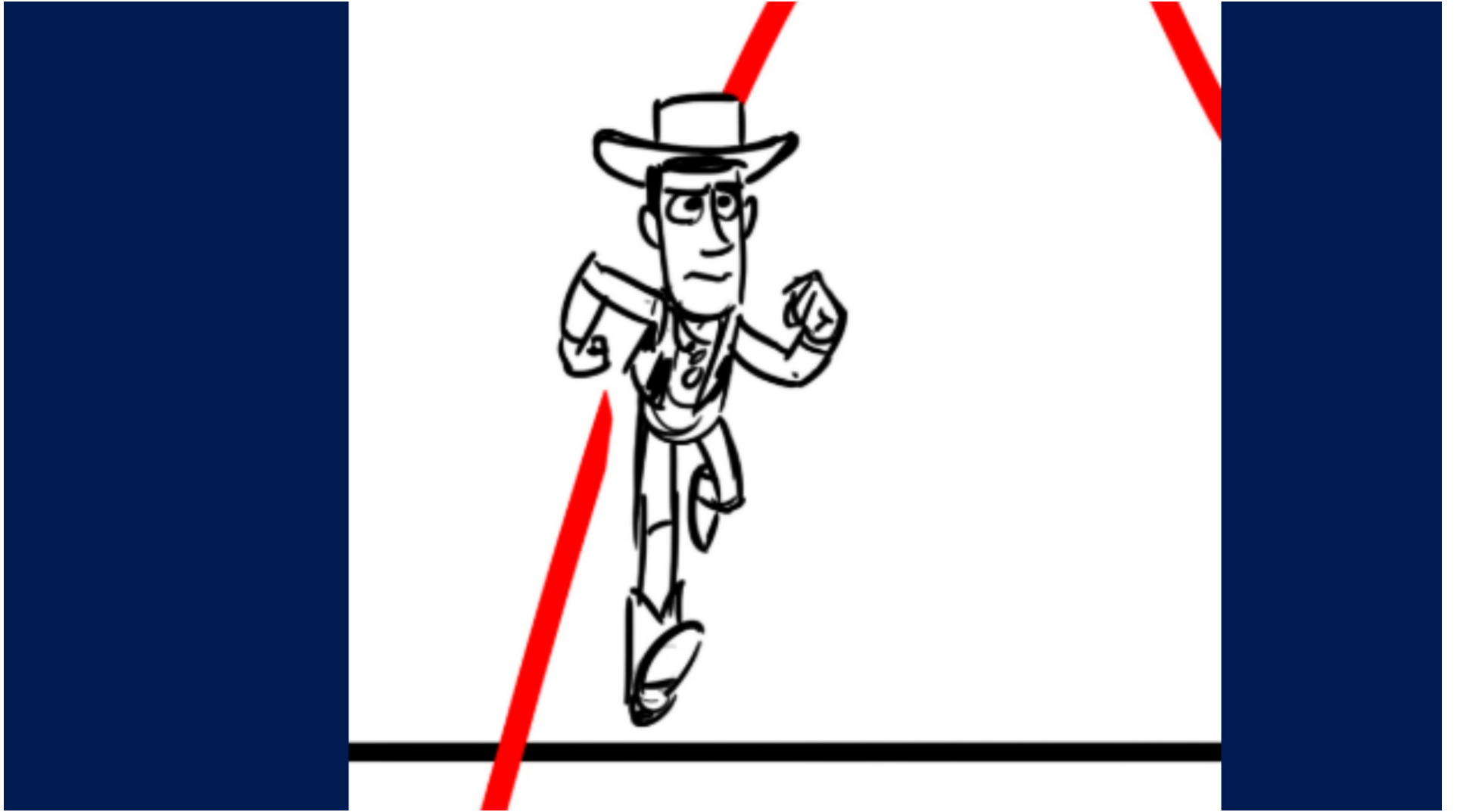
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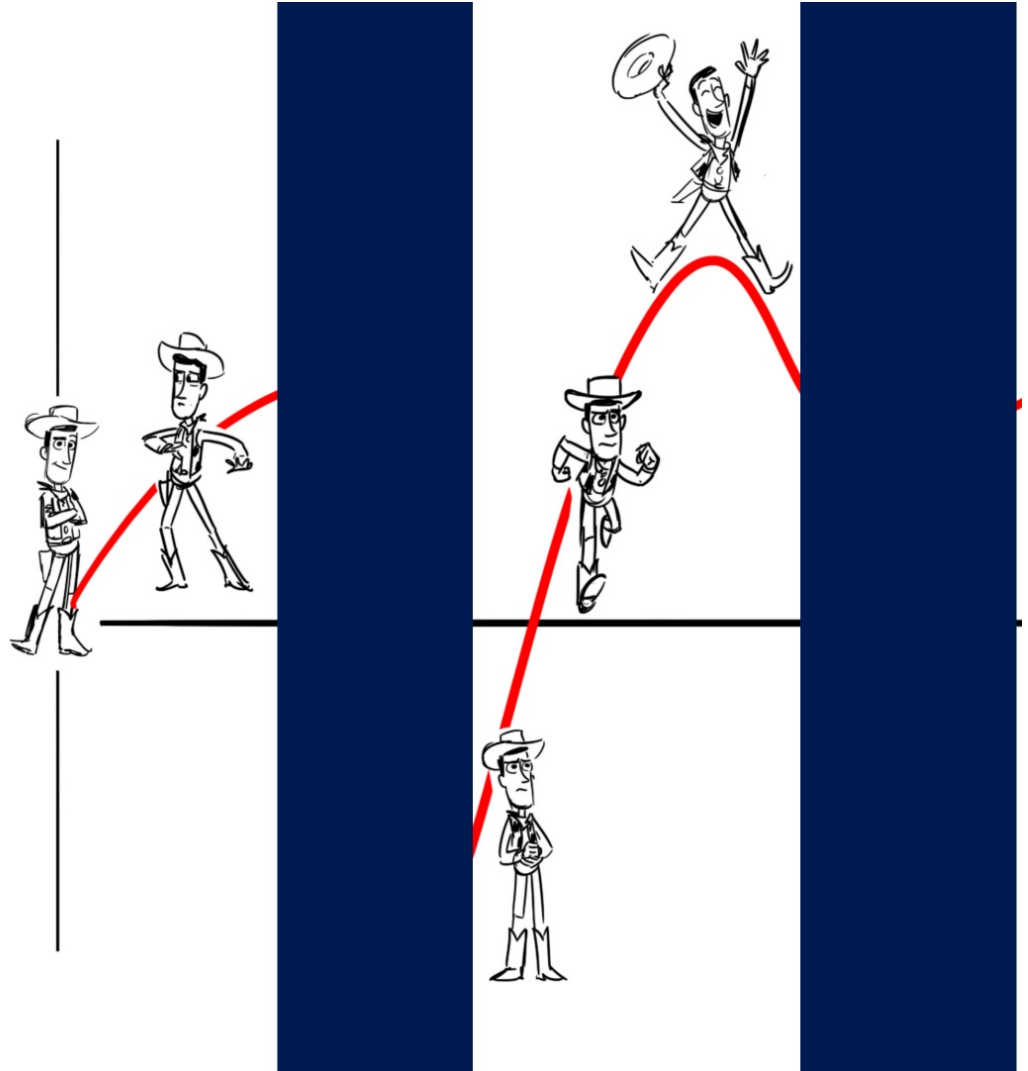
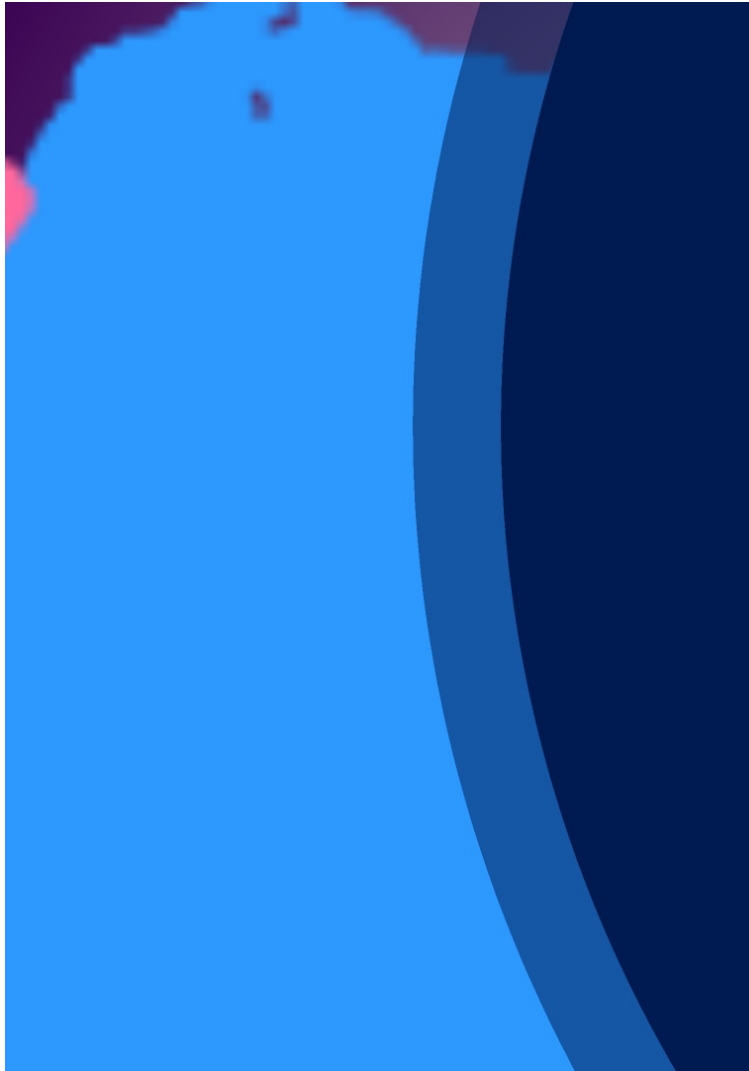


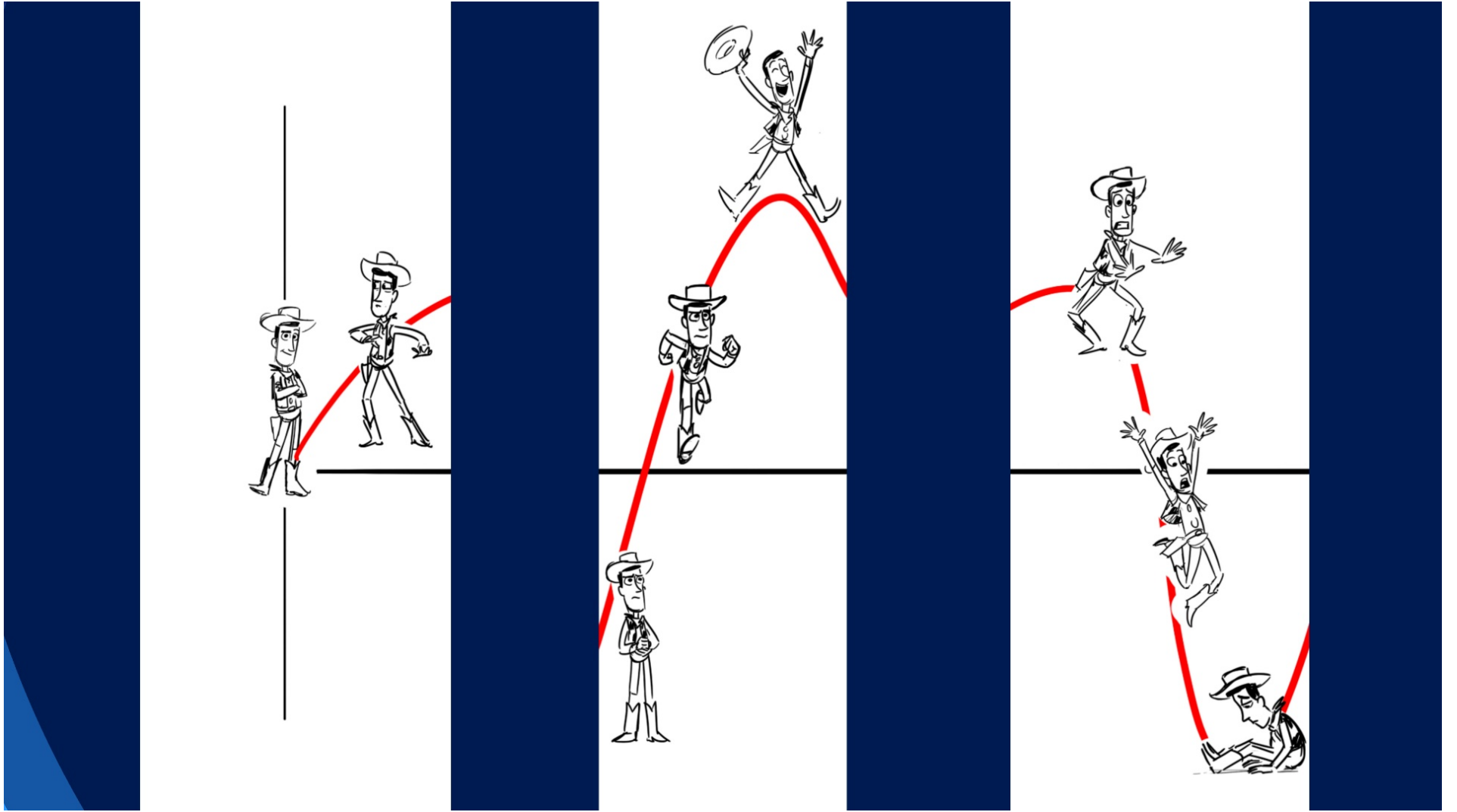
Storytelling Techniques

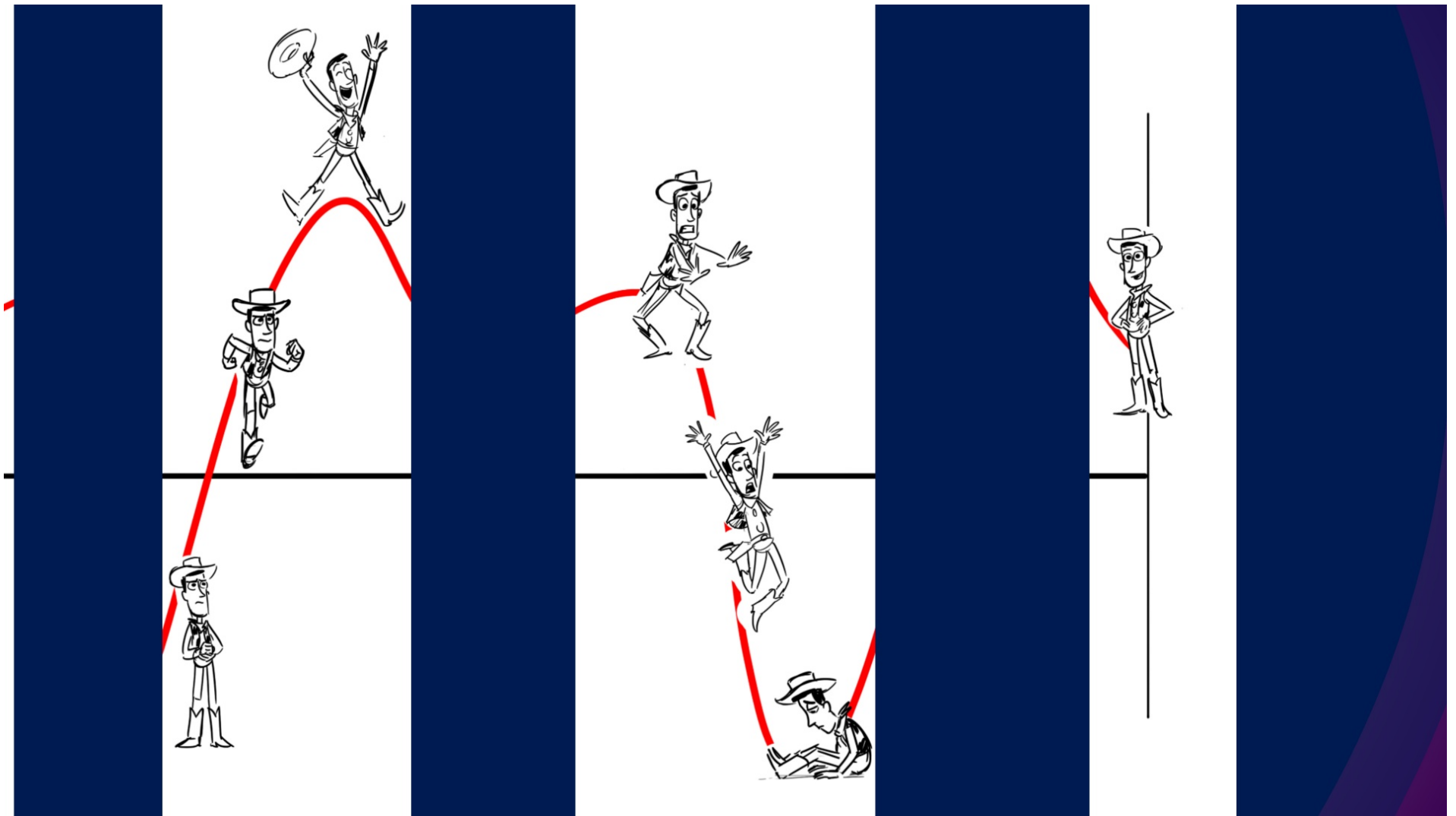


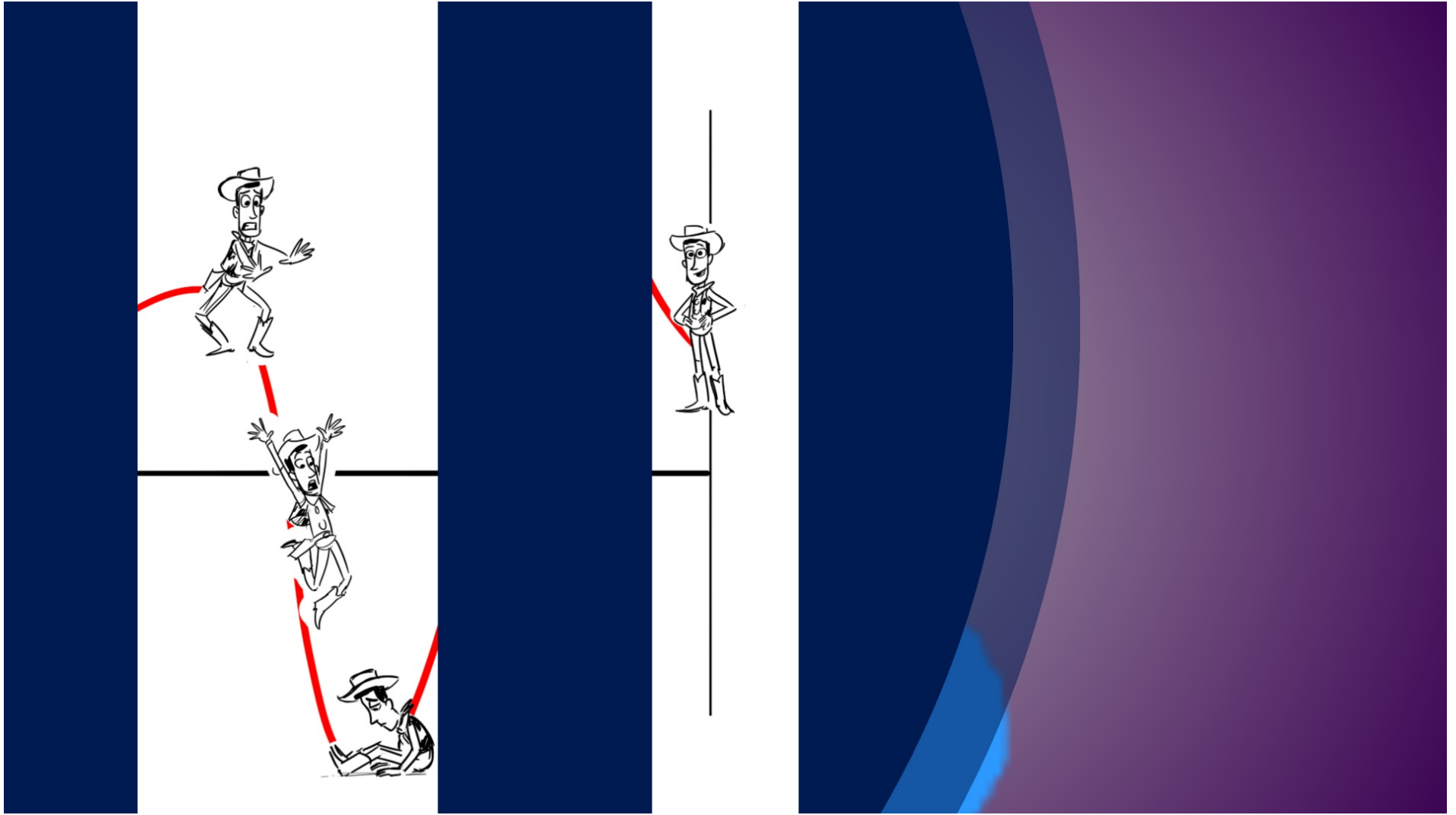


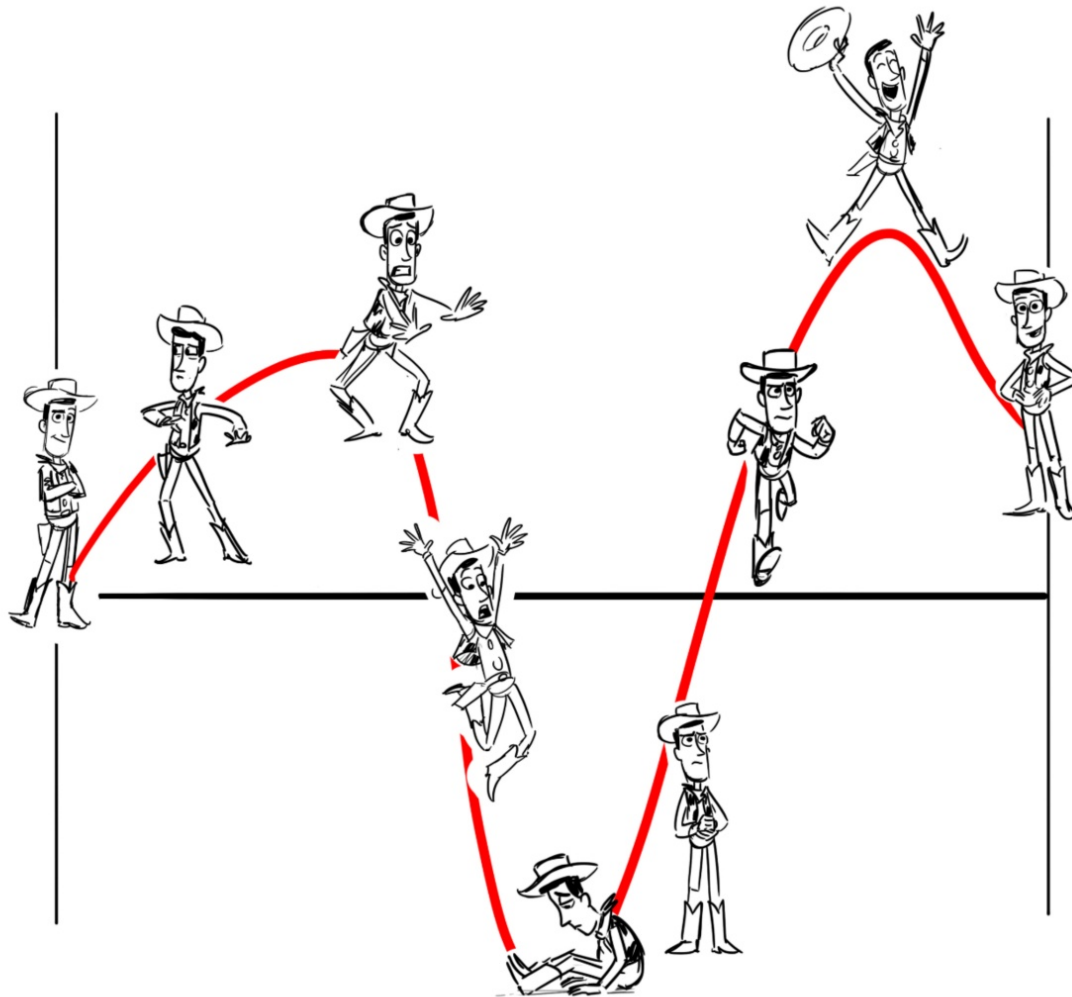




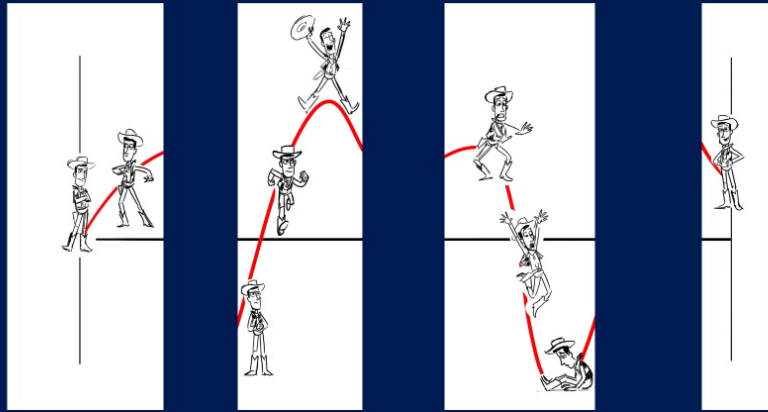




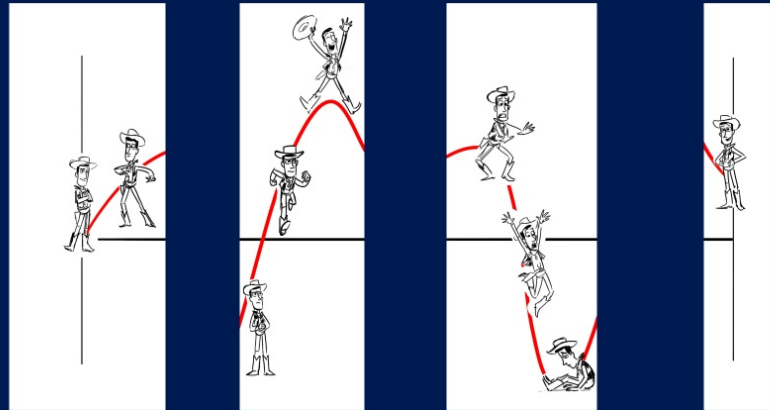




Storytelling Techniques



Storytelling Techniques



The Story Teller!



- 01 Curious
Always trying to find insights from Data
- 02 Math, Stats, & Programming
A range set of data science skills
- 03 Good communicator
IT no longer owns the Data!
- 04 Adapting to a Data-driven
Culture





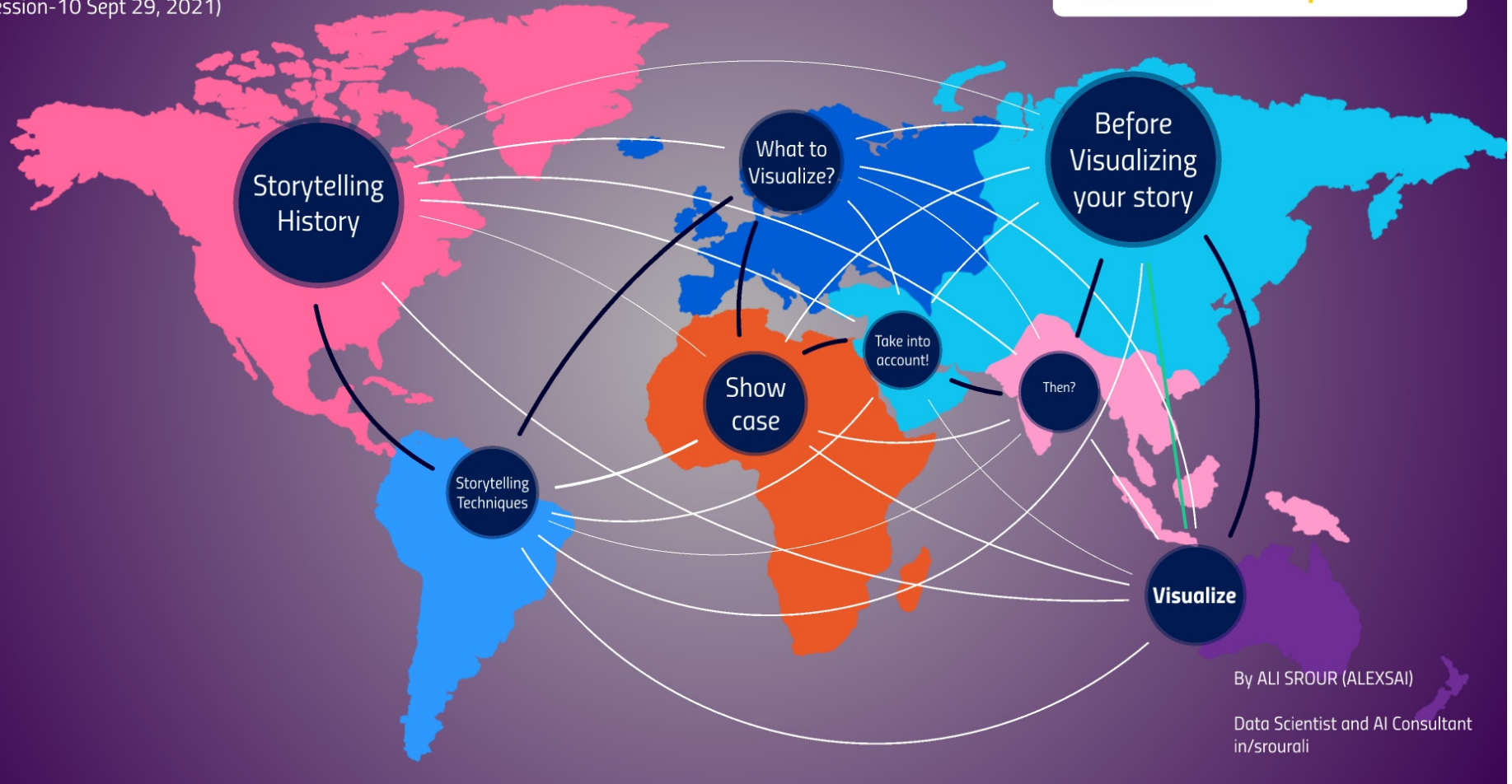


Data Pipeline: Visualization

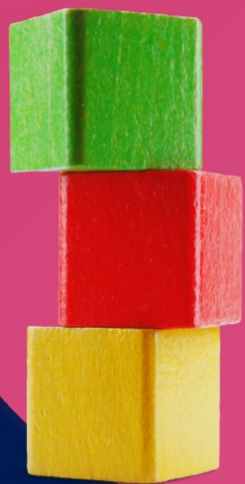
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What to Visualize?





Any Kind of Visuals!

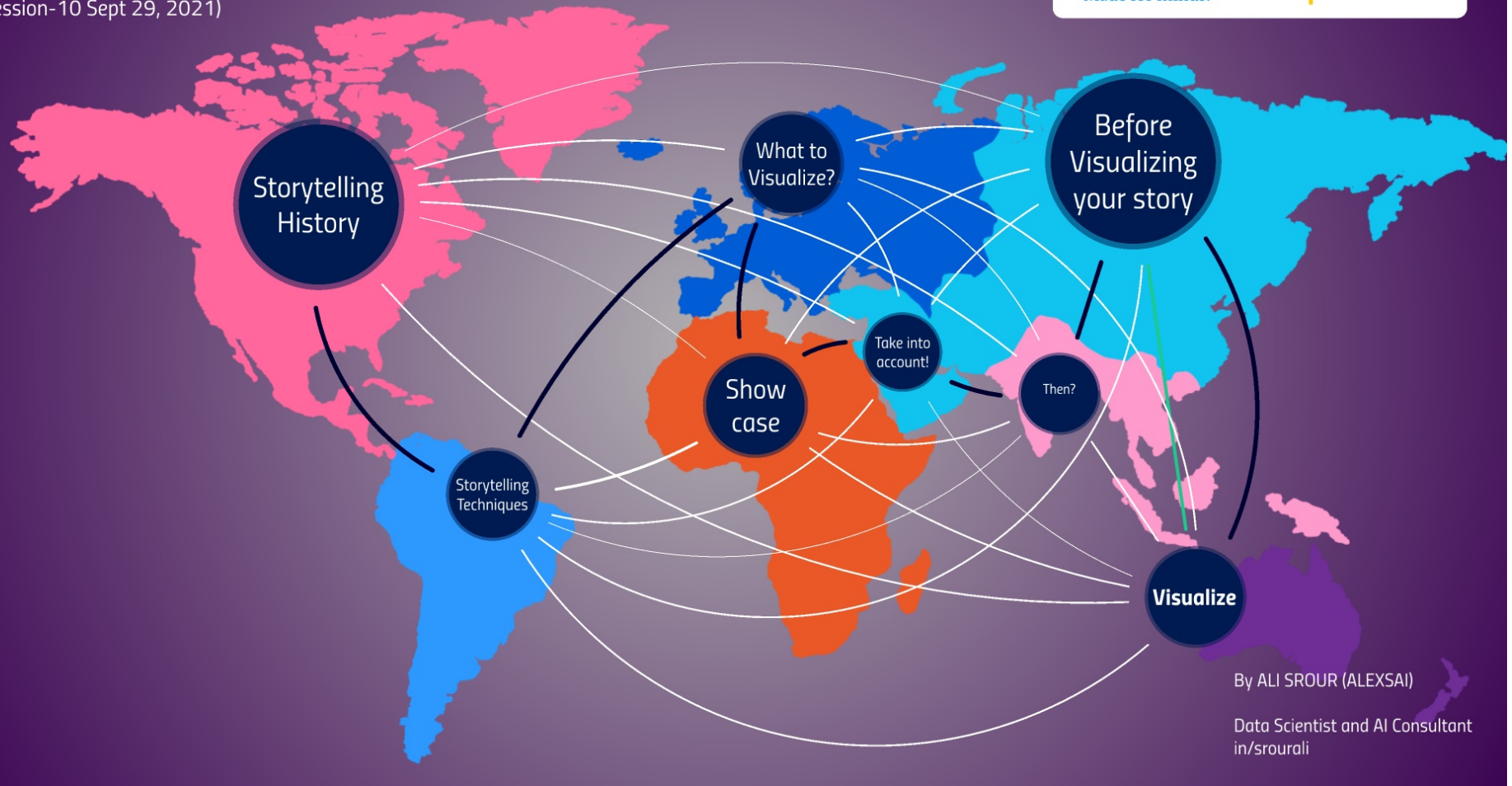
- 1 Charts
- 2 Maps
- 3 Info-graphs
- 4 Videos
- 5 Websites
- 6 Apps

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By ALI SROUR (ALEXSAI)

Data Scientist and AI Consultant
in/srouali



Showcase



Showcase

Sample: MAPS



Showcase

Sample: MAPS

Choropleth
Maps



Showcase

Sample: MAPS

Choropleth
Maps

Dot Maps



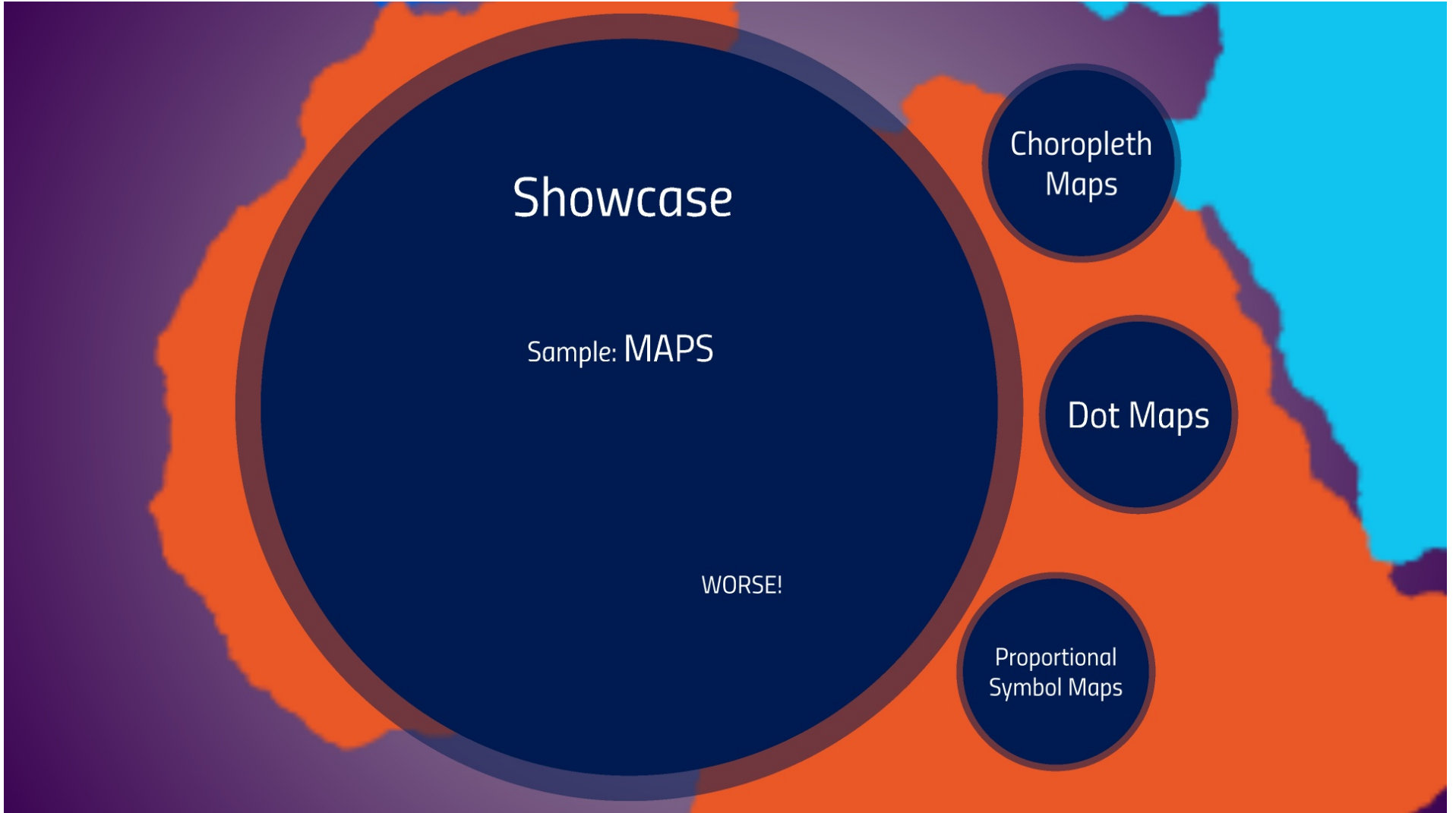
Showcase

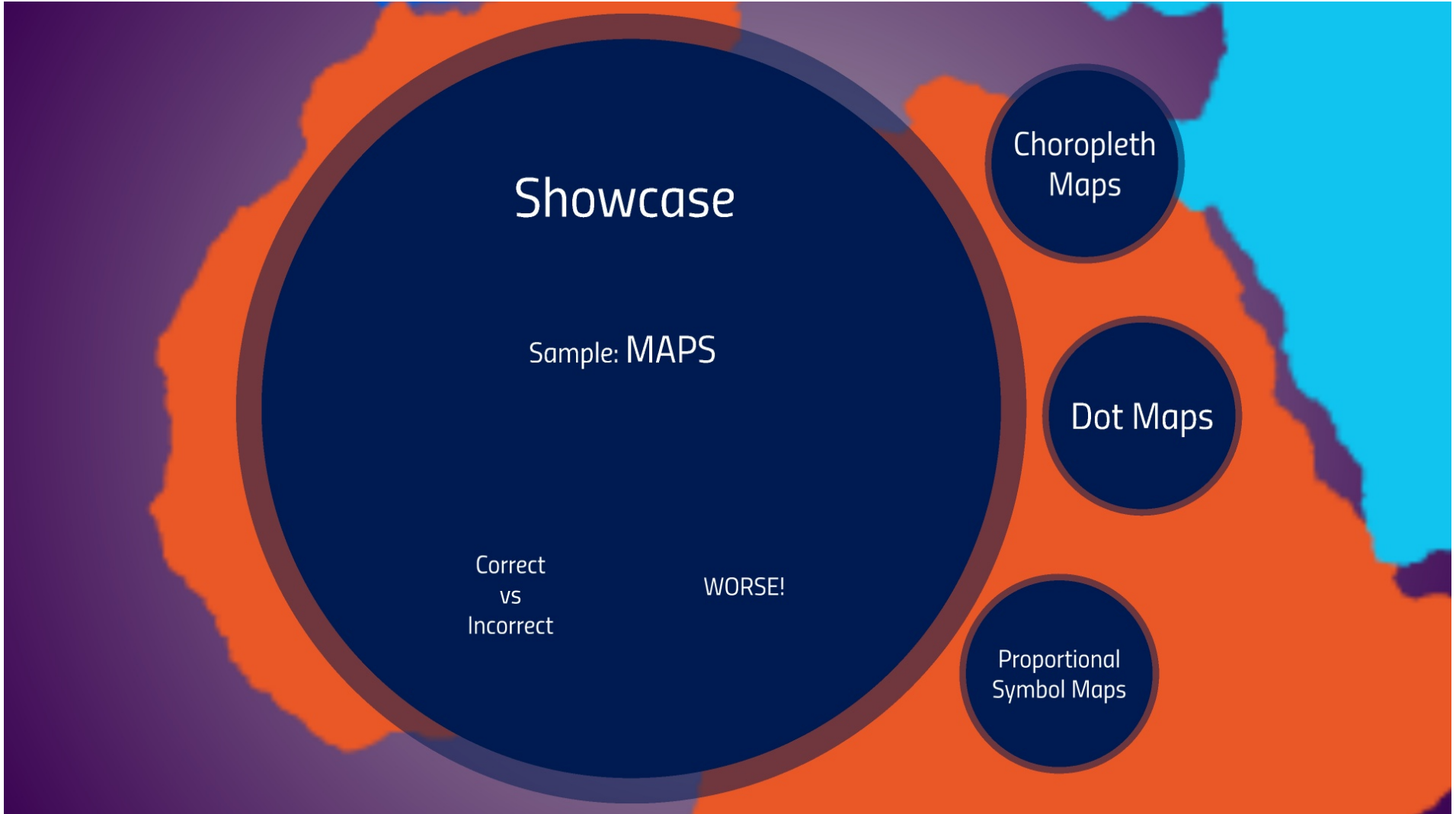
Sample: MAPS

Choropleth
Maps

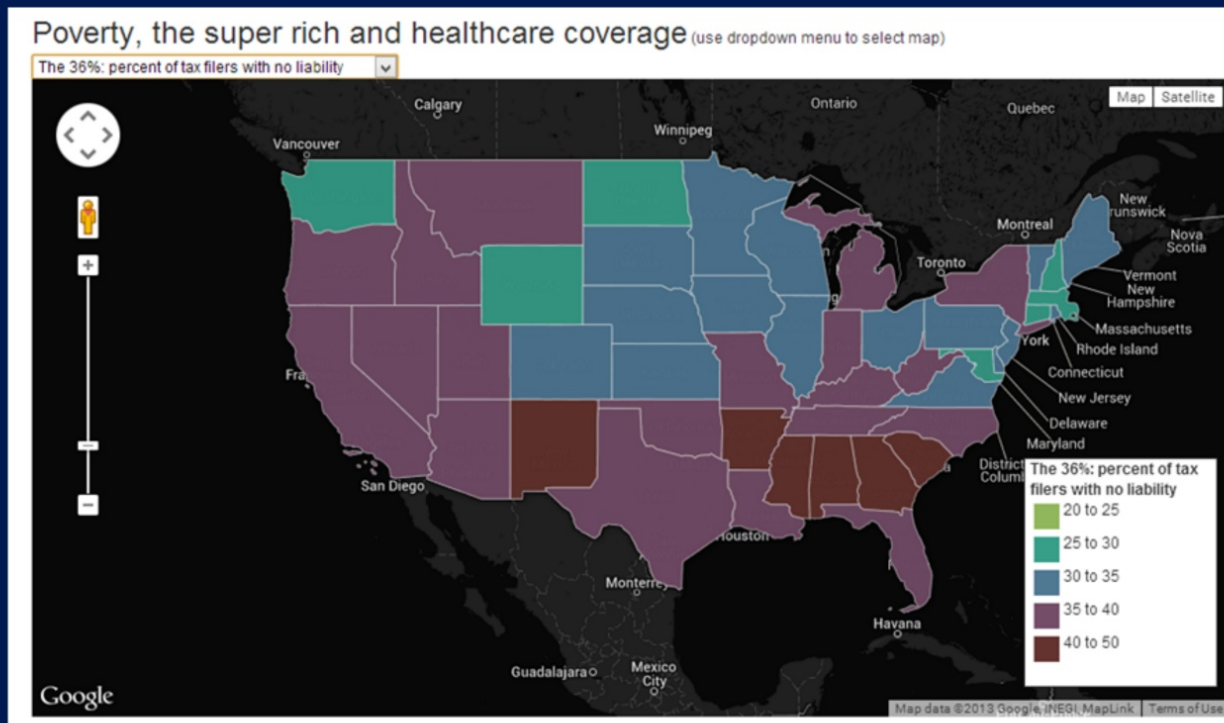
Dot Maps

Proportional
Symbol Maps



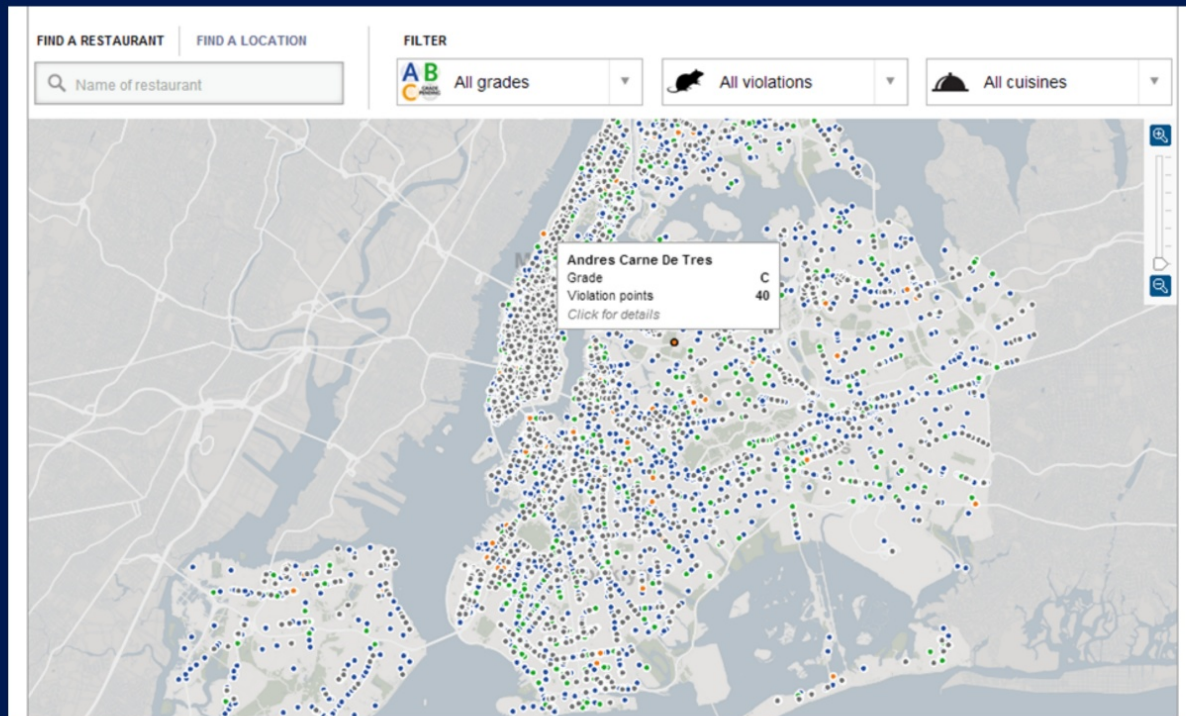


Choropleth Maps



Good for showing ratios, percentages and other derived data
Bad for displaying raw amounts.

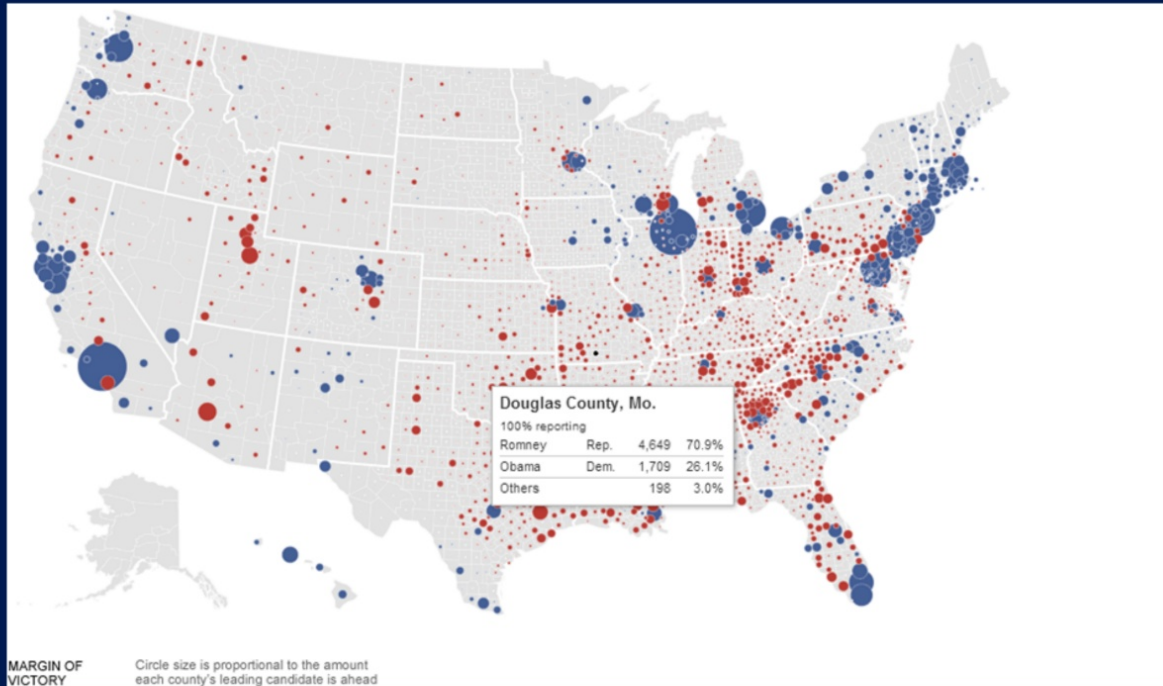
Dot Maps



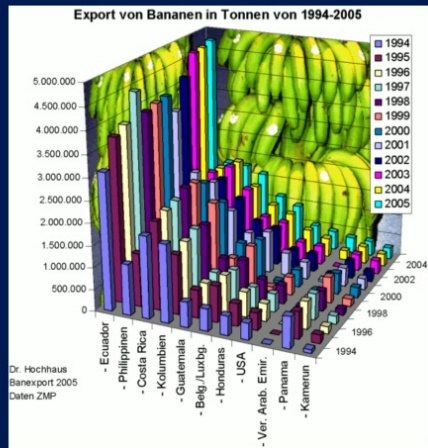
Good for showing a discrete phenomena: they can be located in that place and nowhere else.

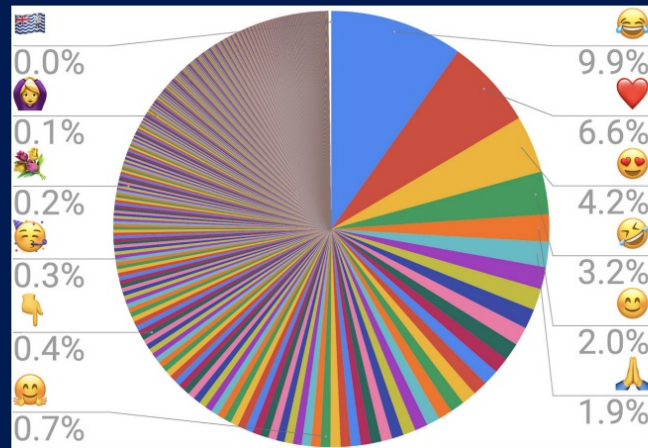
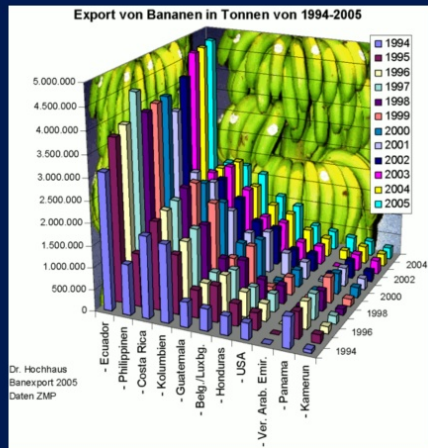
- > Every dot represent a single unit
- > Bad for raw and continuous data

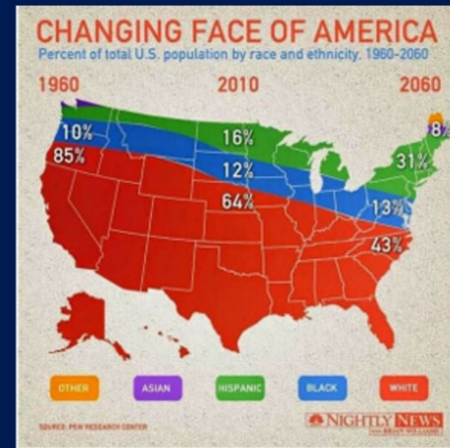
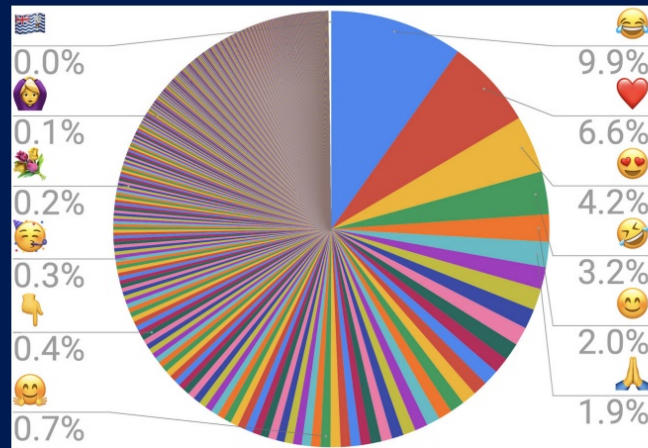
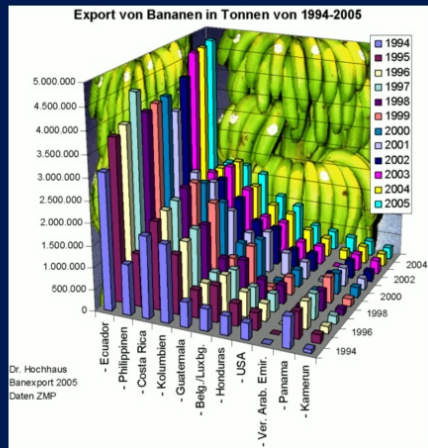
Proportional Symbol Maps

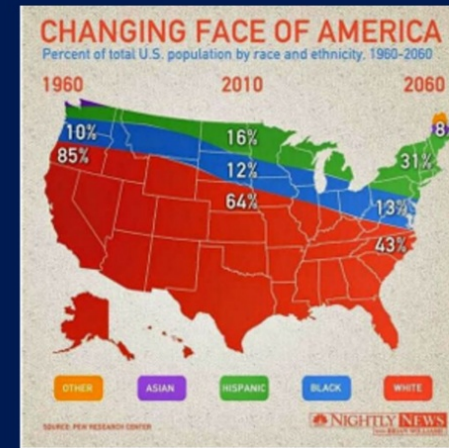
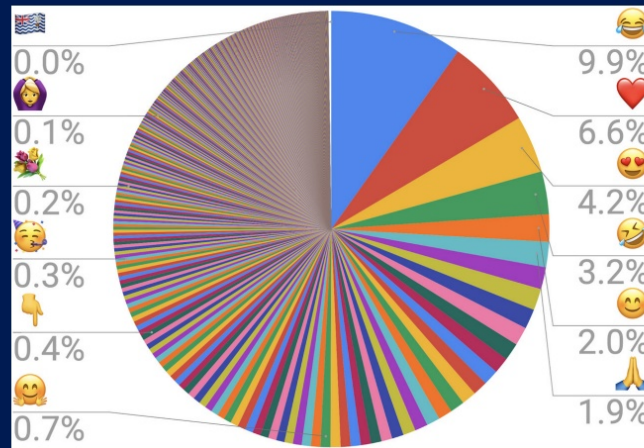
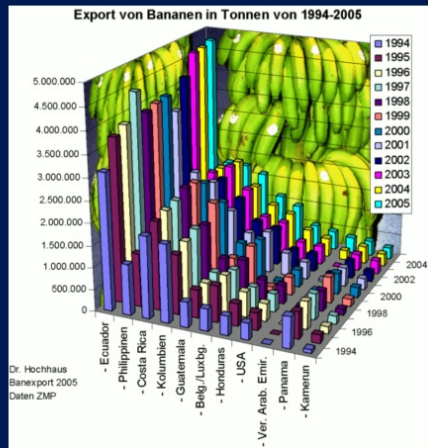


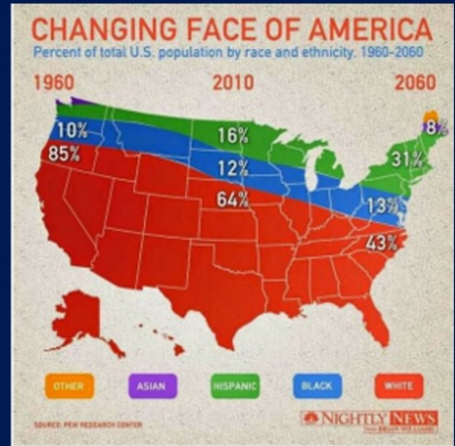
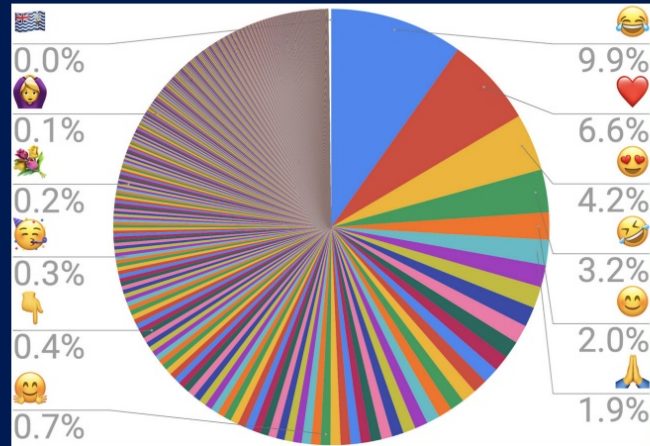
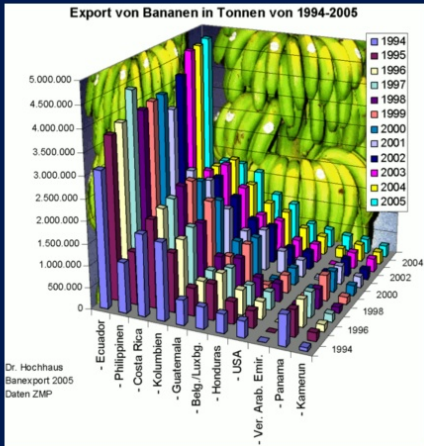
Good for raw data..
scaled up or down
depending on the
amount of a variable
in each place.

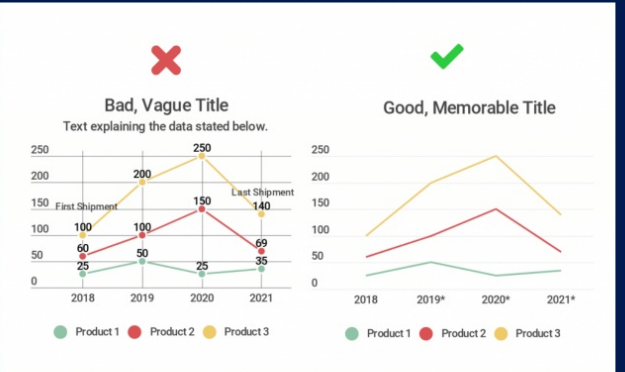
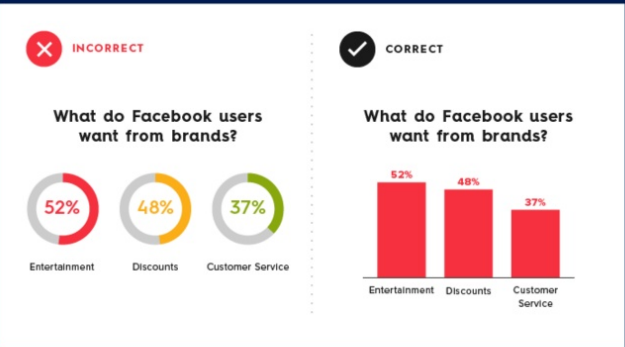
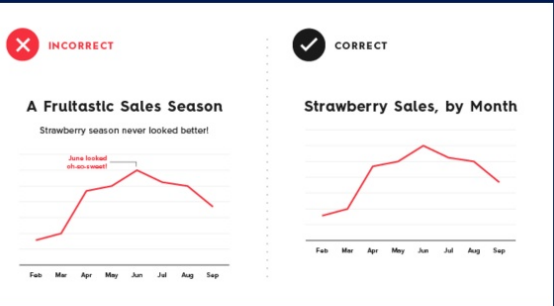
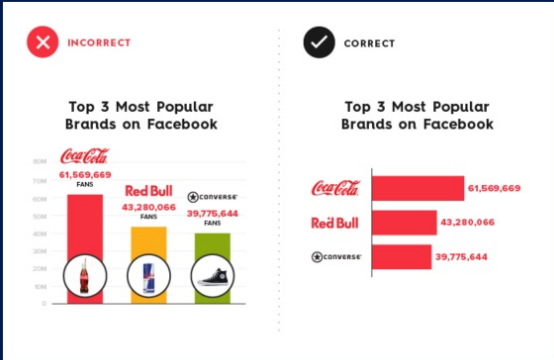
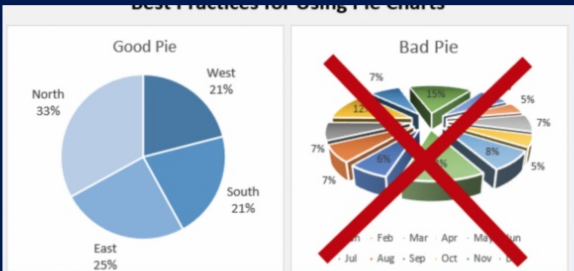
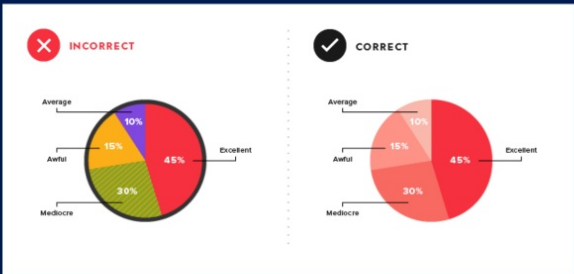
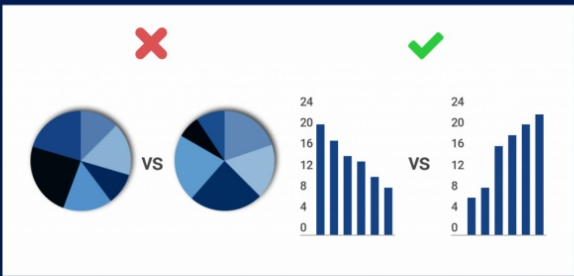


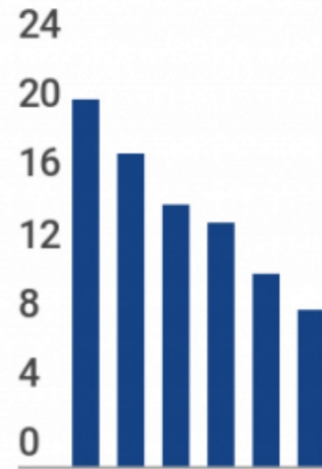
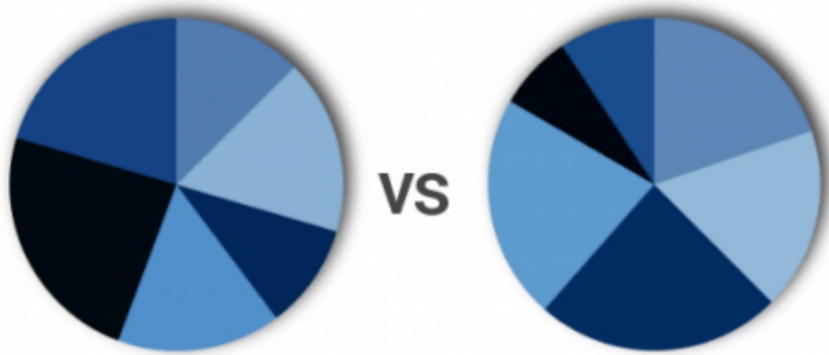




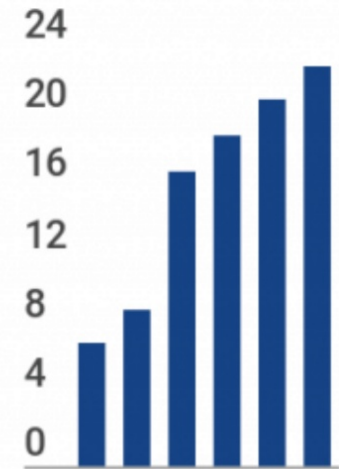






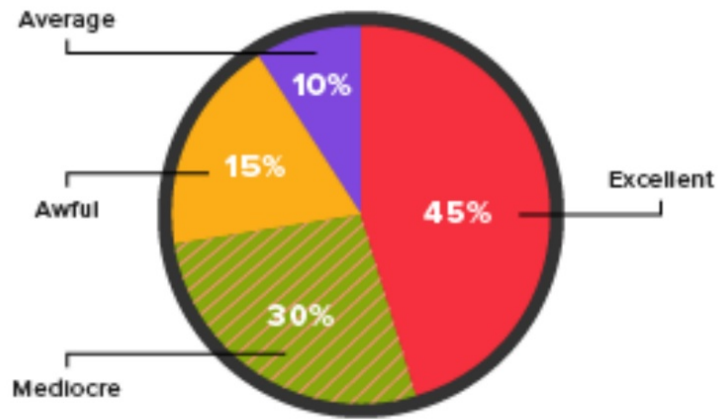


VS

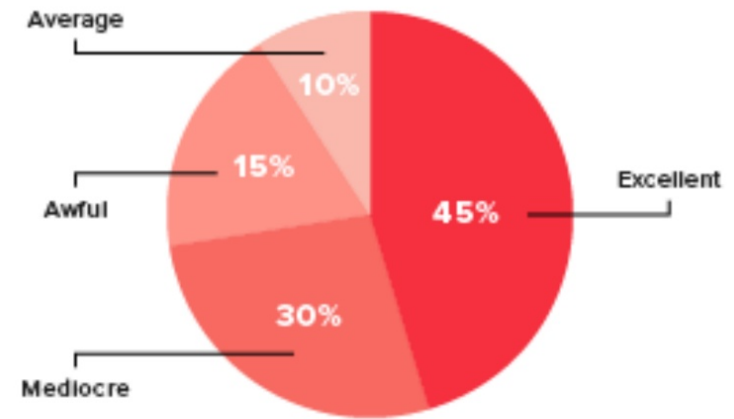




INCORRECT

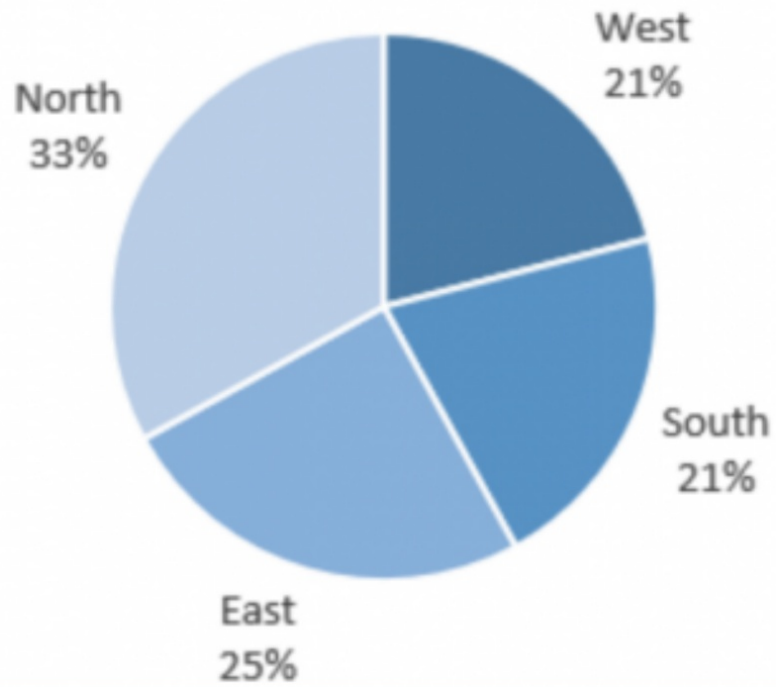


CORRECT

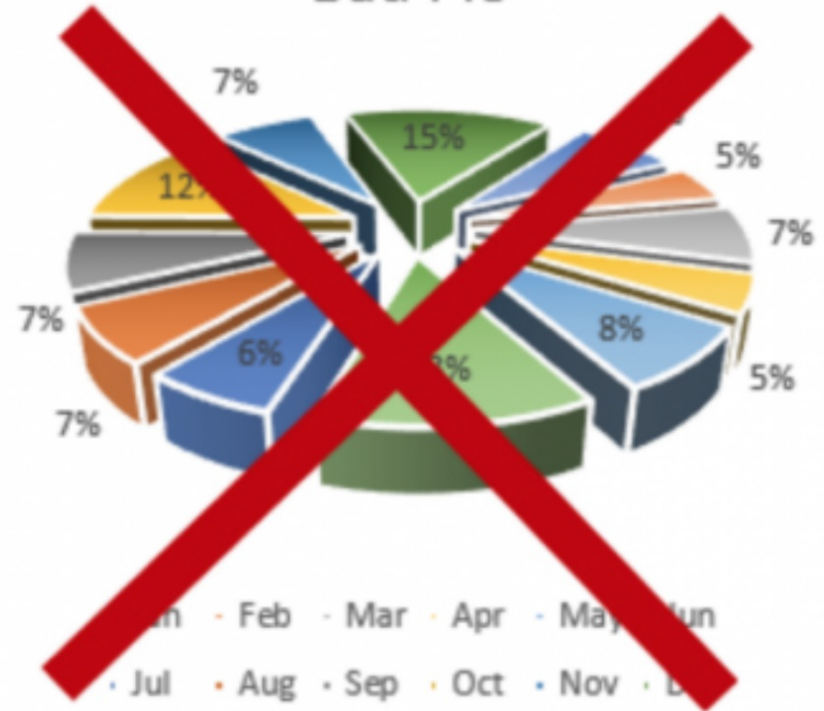


Best Practices for Using Pie Charts

Good Pie



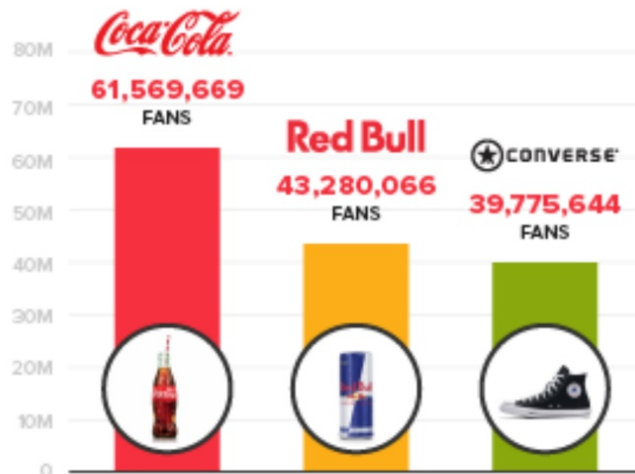
Bad Pie





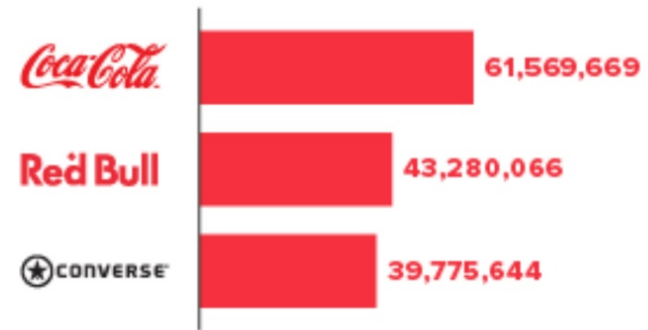
INCORRECT

Top 3 Most Popular Brands on Facebook



CORRECT

Top 3 Most Popular Brands on Facebook





INCORRECT

What do Facebook users want from brands?



Entertainment



Discounts



Customer Service



CORRECT

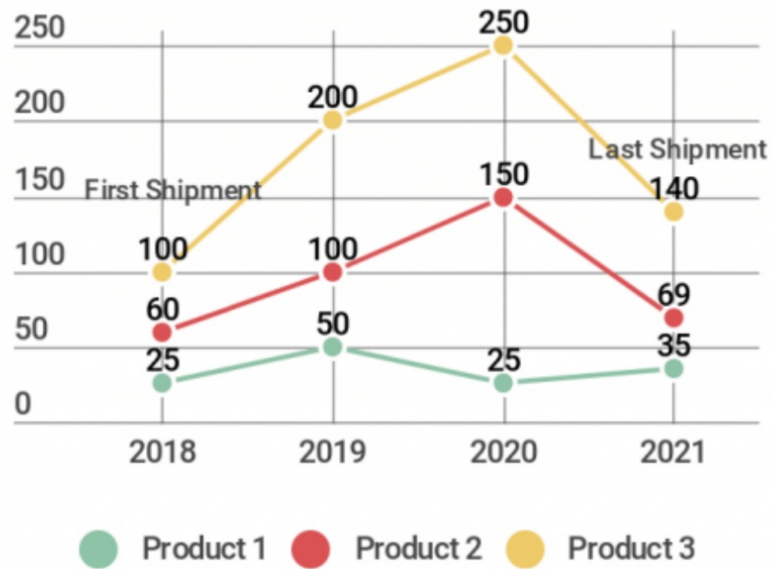
What do Facebook users want from brands?



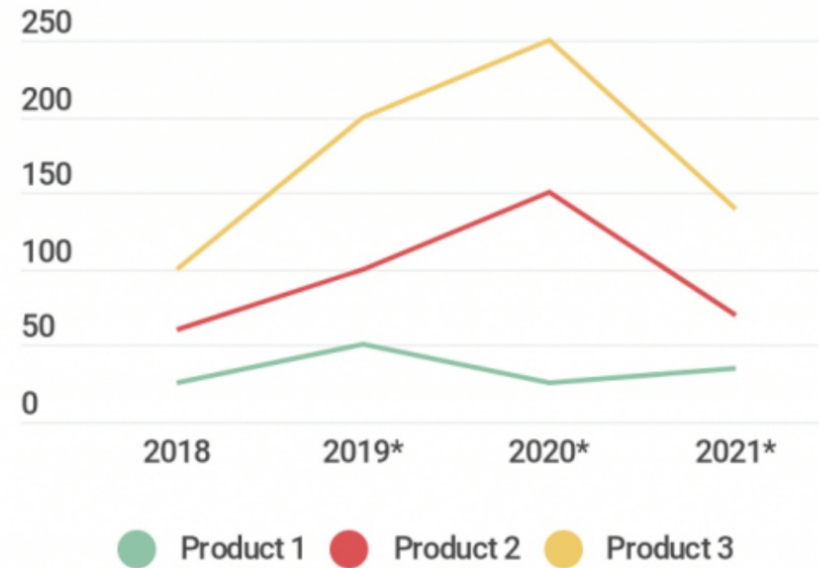


Bad, Vague Title

Text explaining the data stated below.



Good, Memorable Title

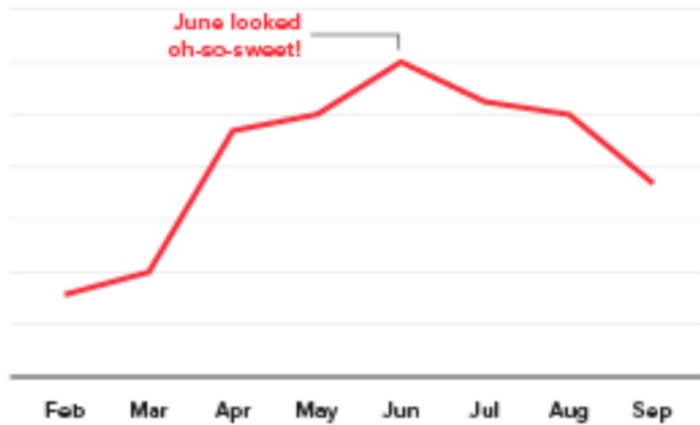




INCORRECT

A Fruitastic Sales Season

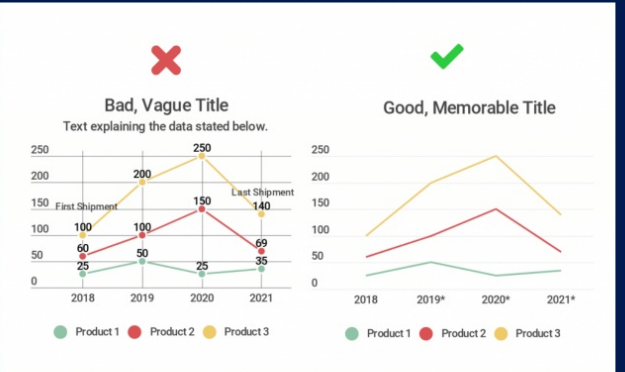
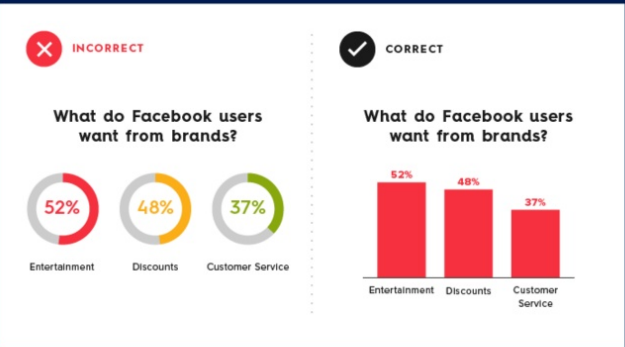
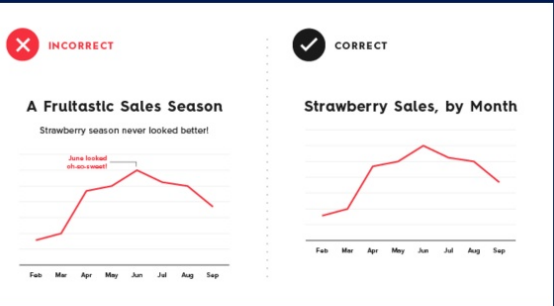
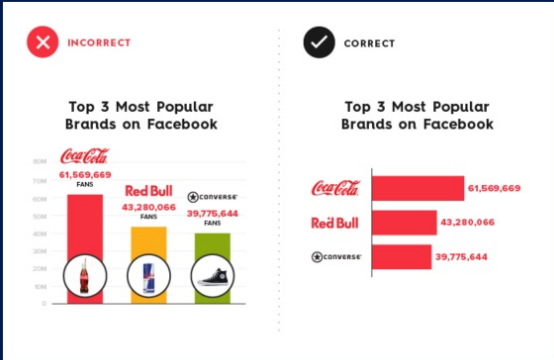
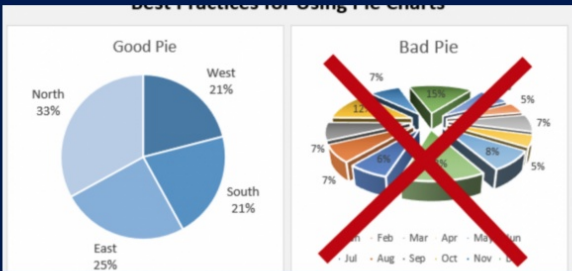
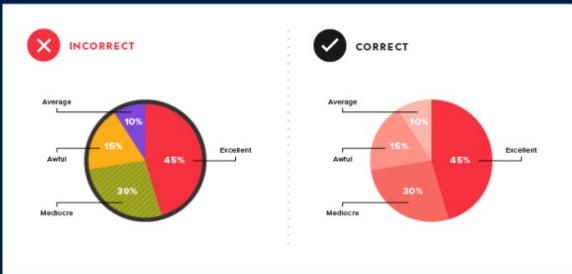
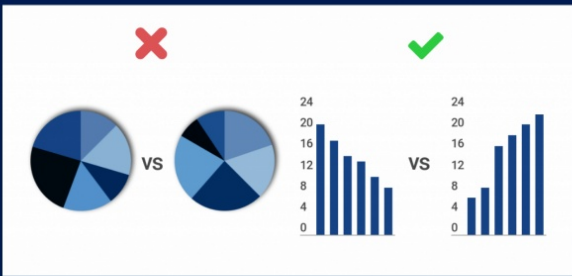
Strawberry season never looked better!



CORRECT

Strawberry Sales, by Month



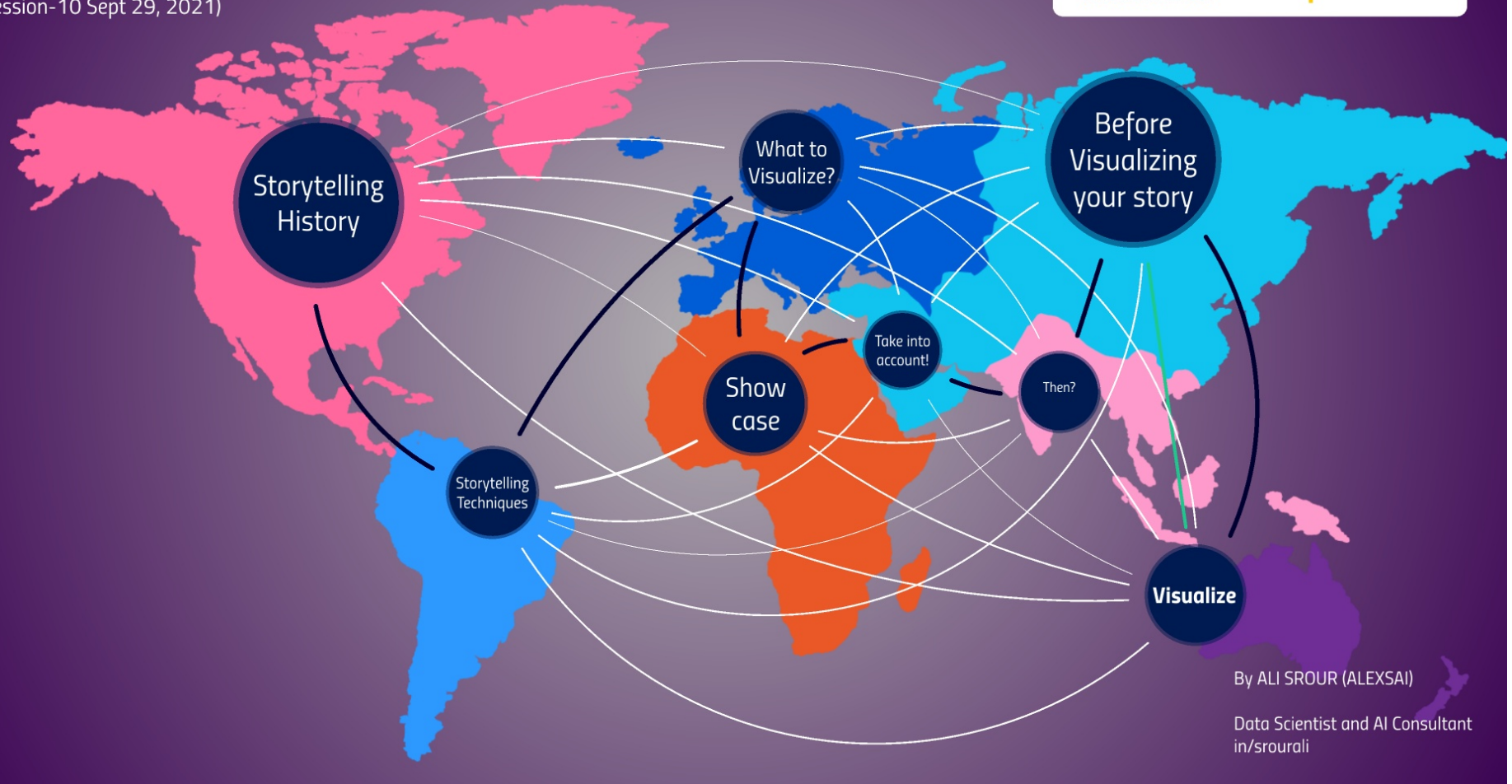


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Things to be taken into account

- Colors
- Design
- Calculations
- Story and Context
- Key Terms

Colors

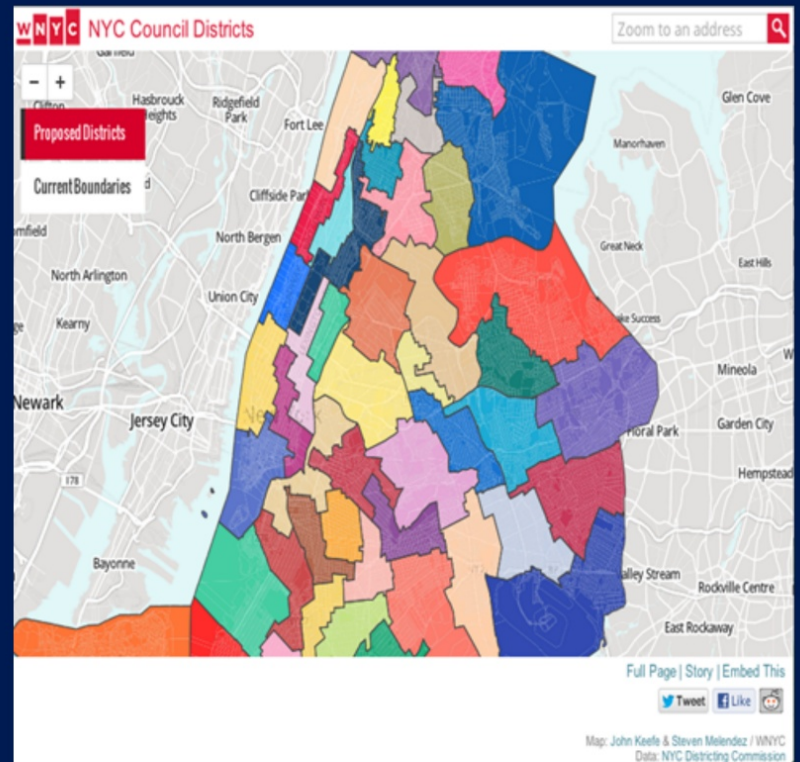
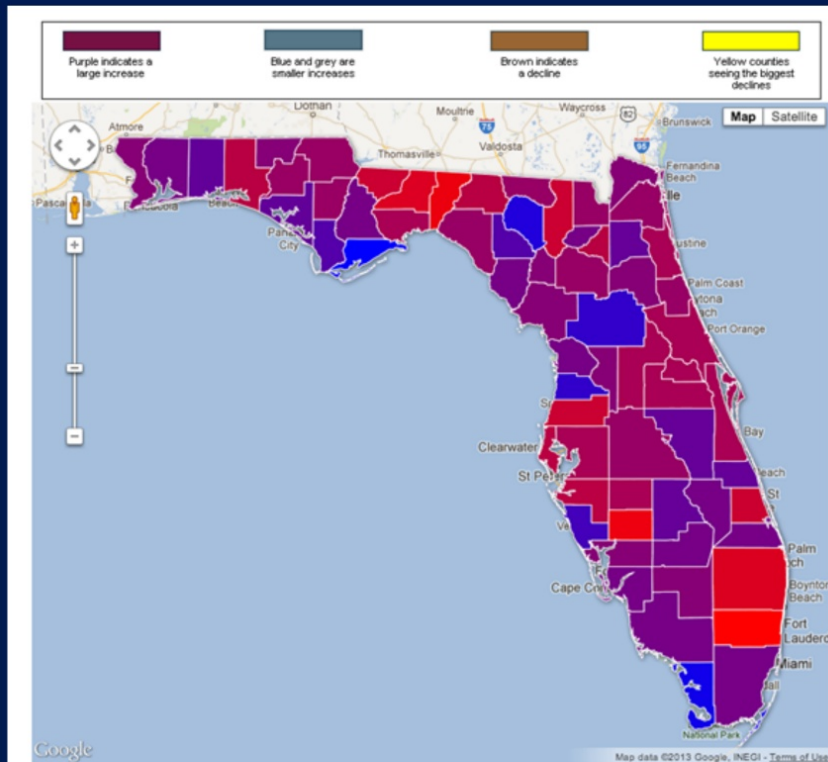
Design

Calculations

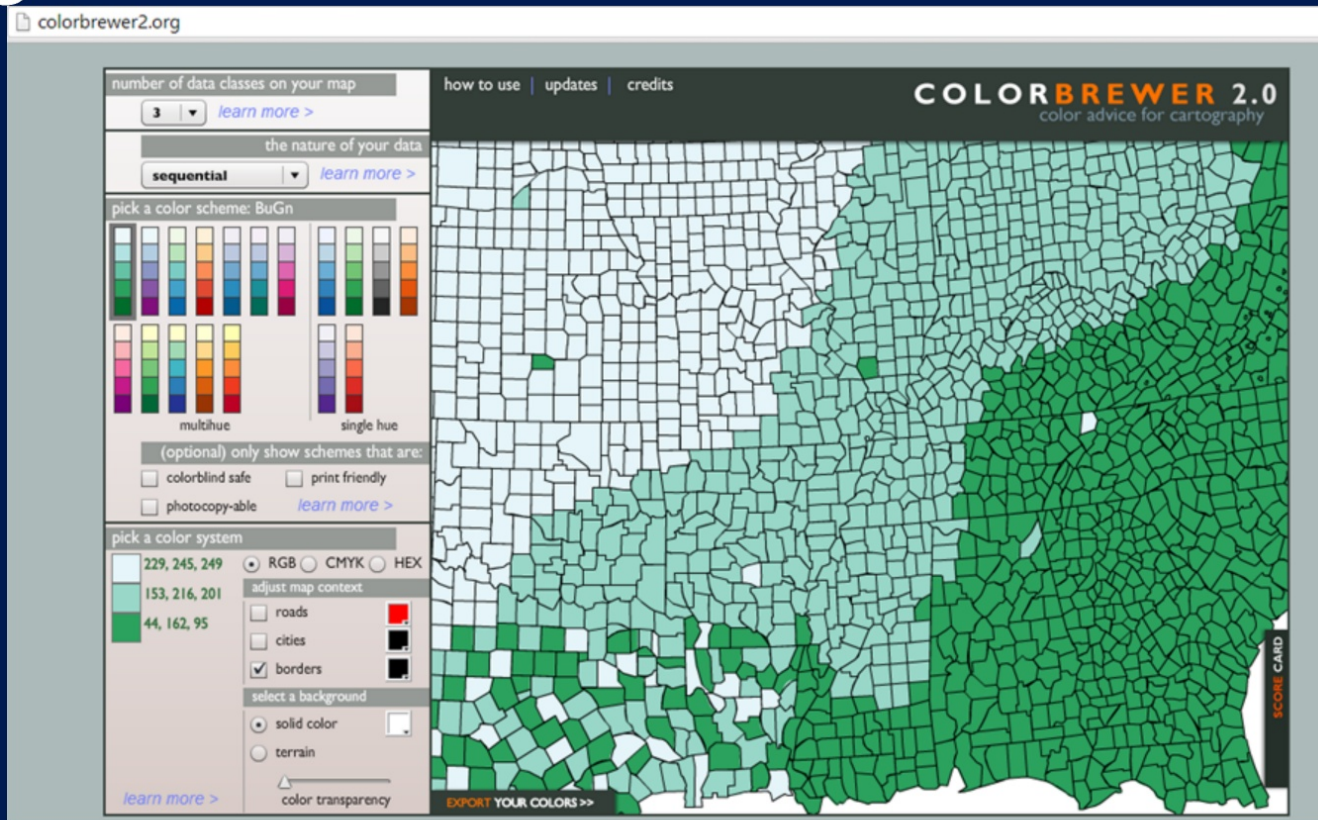
Story and
Context

Key
Terms

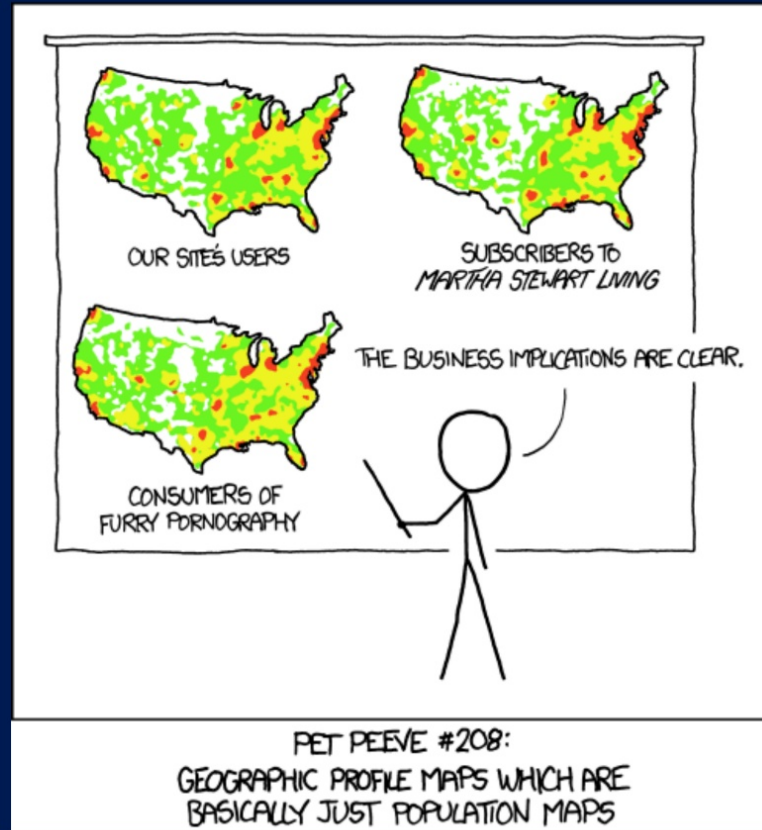
Colors



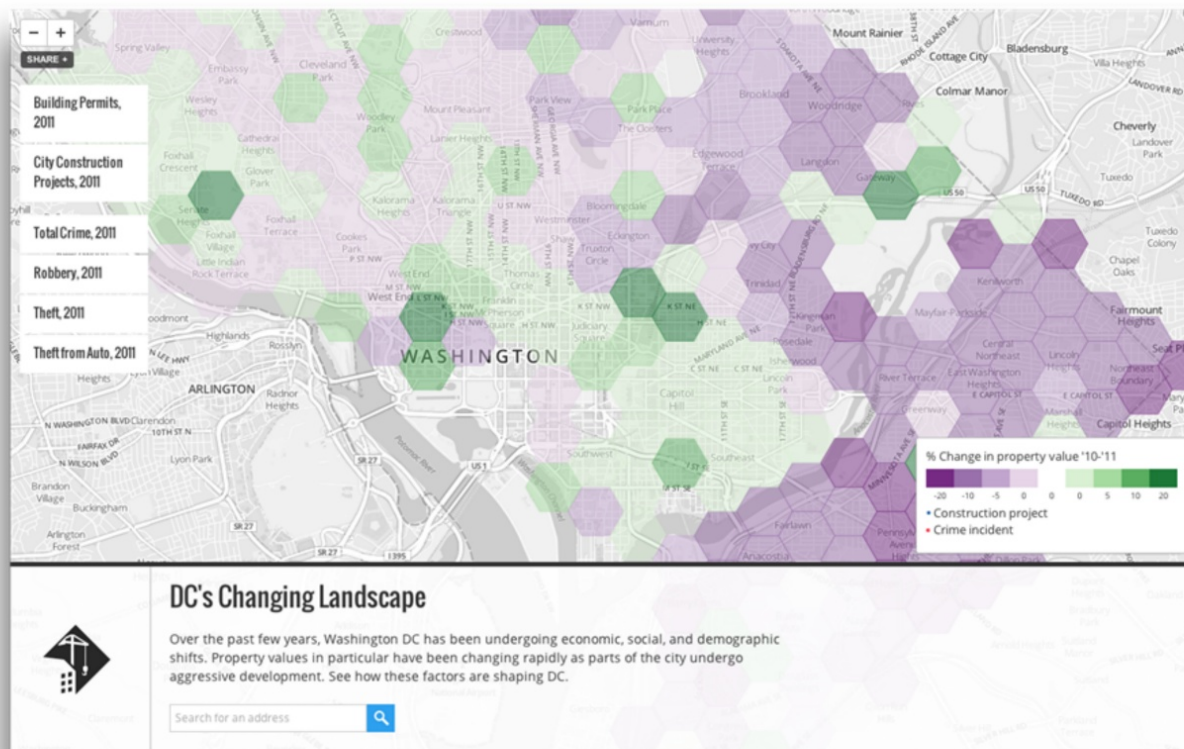
Design



Calculations



Story and Context



Key Terms

Don't use more than six classes unless it is necessary. The average human eye finds it difficult to distinguish more than six shades of a hue.

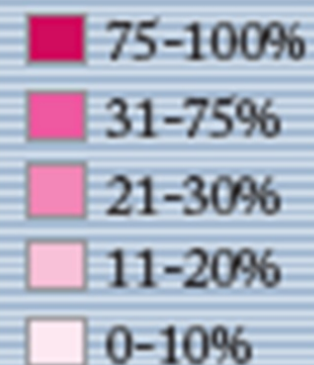
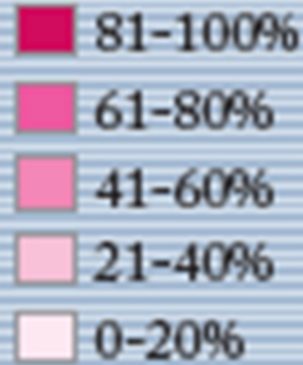
Total Crimes in Oman's Governorates per 1000000 people, 2011



Source: Oman Open Data portal

% who use pink whigs

Data	
1 Galicia	6%
2 Asturias	7%
3 Cantabria	8%
4 País Vasco	8%
5 Navarra	12%
6 La Rioja	14%
7 Aragón	16%
8 Cataluña	19%
9 Castilla-León	22%
10 Madrid	24%
11 Extremadura	25%
12 Cast.-La Mancha	33%
13 Andalucía	35%
14 Murcia	36%
15 Valencia	38%
16 Baleares	75%
17 Canarias	98%

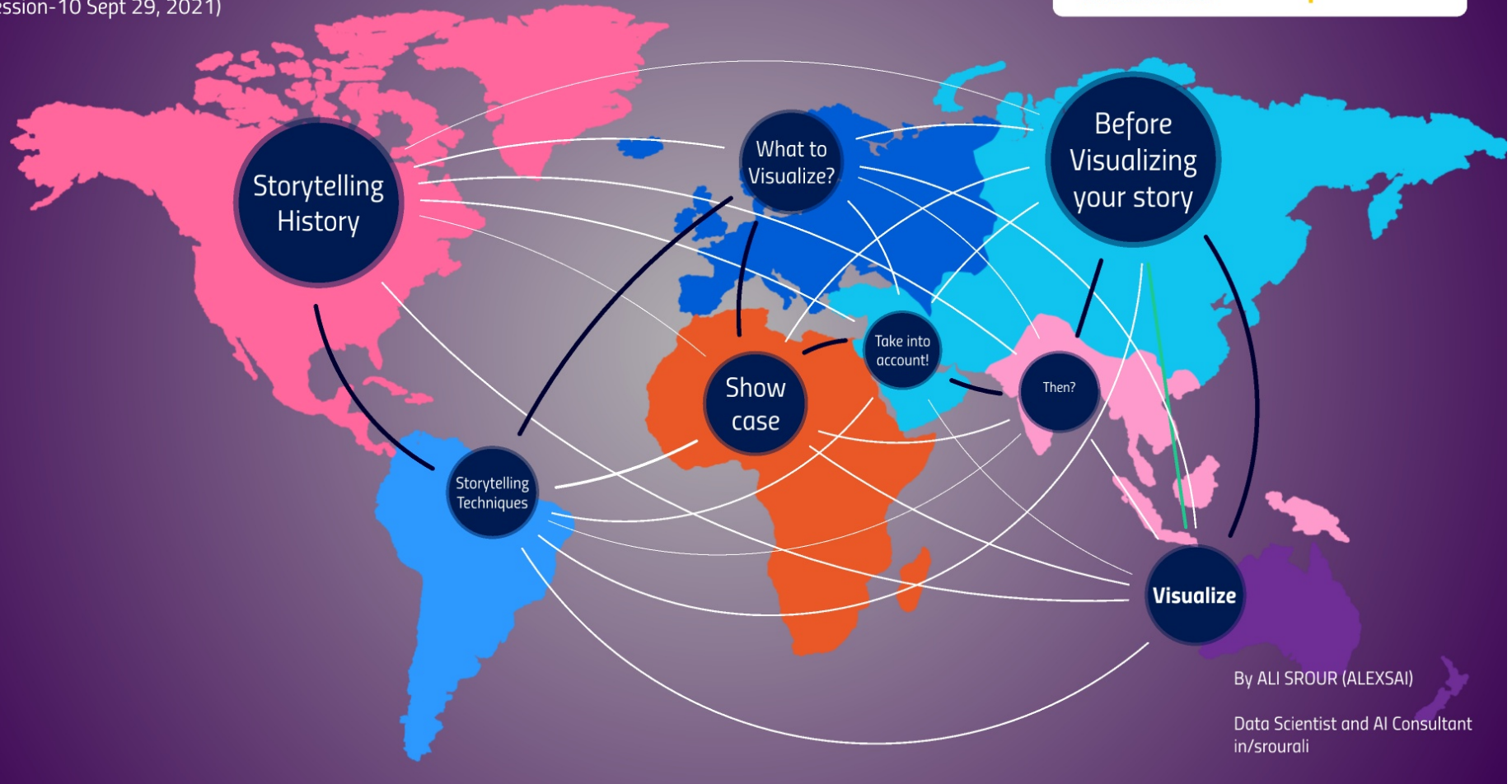


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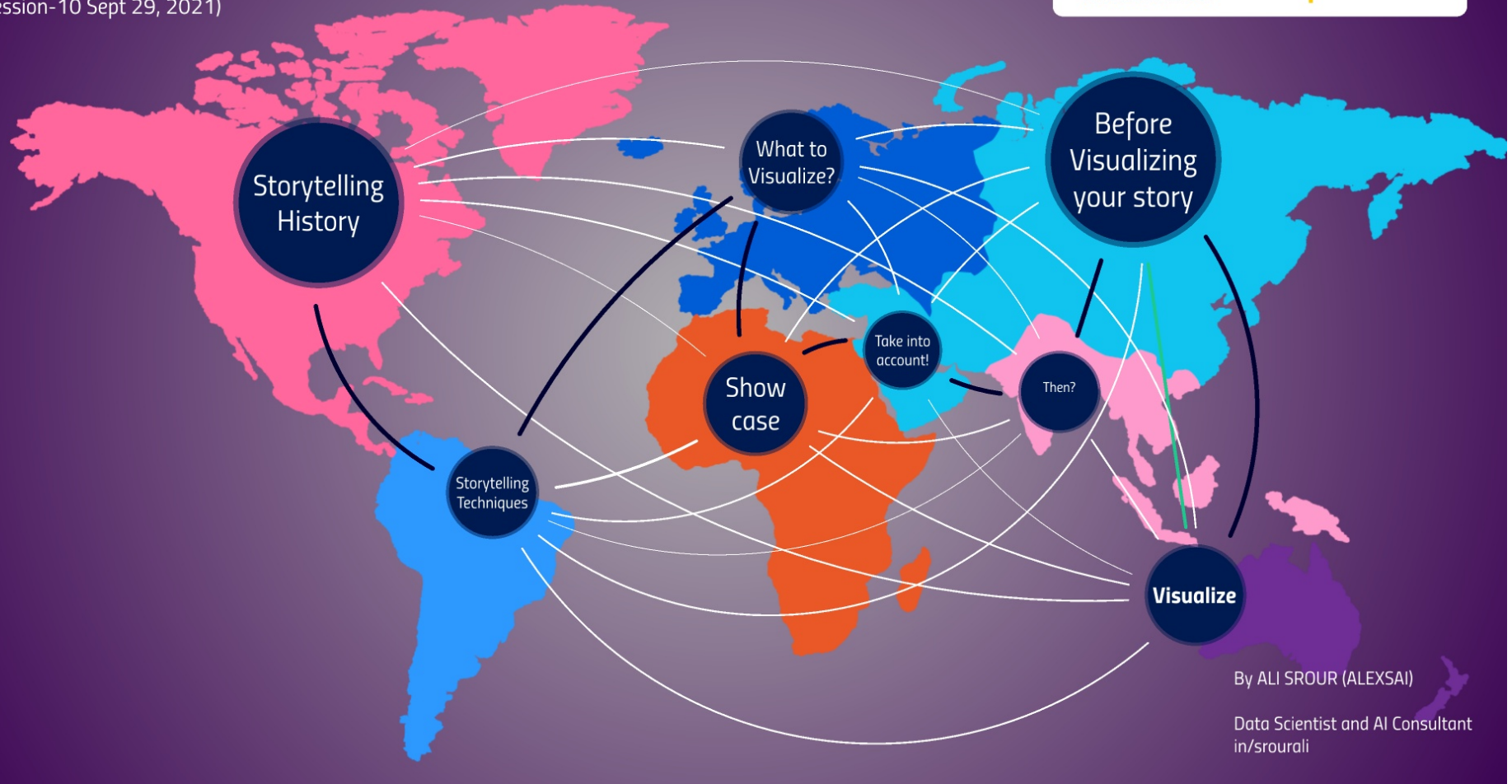
Ask your Designer!

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By ALI SROUR (ALEXSAI)

Data Scientist and AI Consultant
in/srouali

Before visualizing your story!

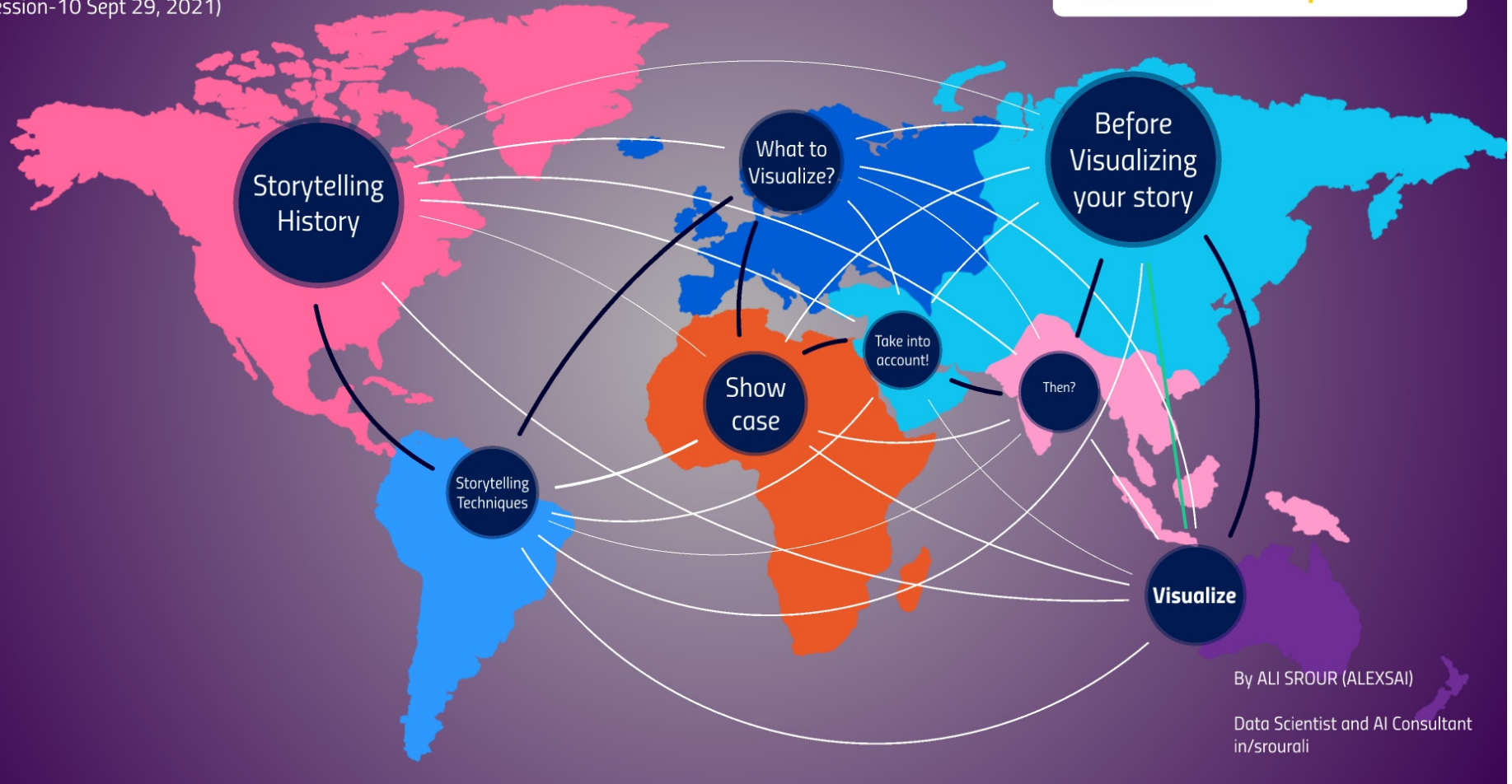
- Select the **accurate dataset** from a **trusted data source**
- **Clean** it, **filter** it, and make it **ready** to use
- **Sketch** down your analysis **scheme**
- And, **Select** your preferable **tool**

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Questions?!

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