Data Visualization Workshop 1

Presented by Simone Betito

Feb 2020

👋 Hello!

Who Am I?

- Data Visualization Developer at Girl Scouts USA in NYC
- Recent MSDV Grad
- I like to analyze & visualize data related to the environment, social justice issues etc. in my spare time.

Theme: Data Visualization to Improve the World

"Conveying information we trust is a dynamic activity that puts our world into forms that are strong and true." - Info We Trust, RJ Andrews

Objectives of Part 1:

- Parse through chaos of the world to help make sense of it for yourself and to help others understand
- Embolden you to take action and do good things with data.
- Curiosity to explore and build your own visualization

Find documentation from this workshop here:
https://github.com/simone-betito/data-viz-workshop-2020

Agenda

- Your definition of Data Viz 📊
- W.E.B Dubois' impact on the world 🌎
- Hans Rosling's Storytelling
- Data Dimensions
- In-Class Activity - Data Humanism 💃
- Stats 101 ❗
- Types of Charts 📈
- Data Visualization example using Google Sheets 😅
- Assignment 💯

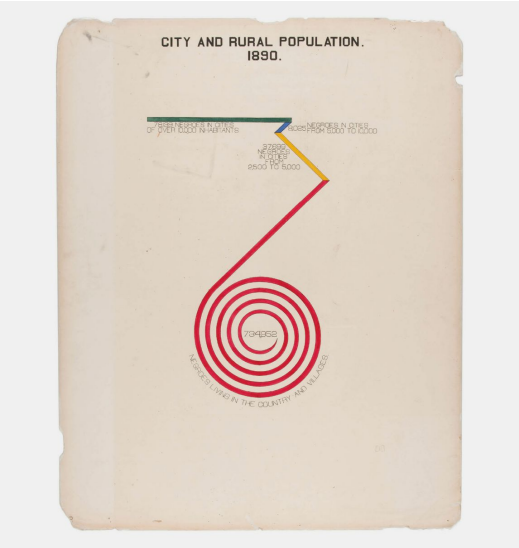
What is your definition of Data Visualization?

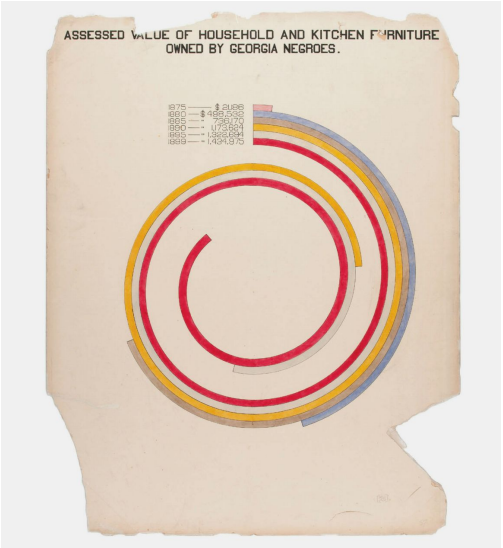
Google Form

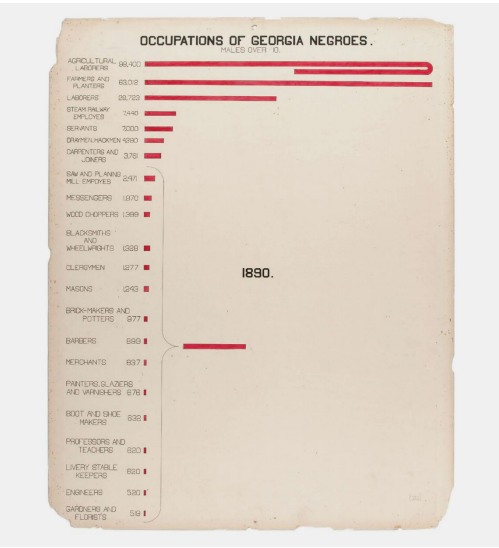
****Don’t look it up on Google.****

No right or wrong answer as Data Visualization is in itself an interdisciplinary subject.

W.E.B Du bois







Source: Visualizing Black America, W.E.B Du Bois's Data Portraits

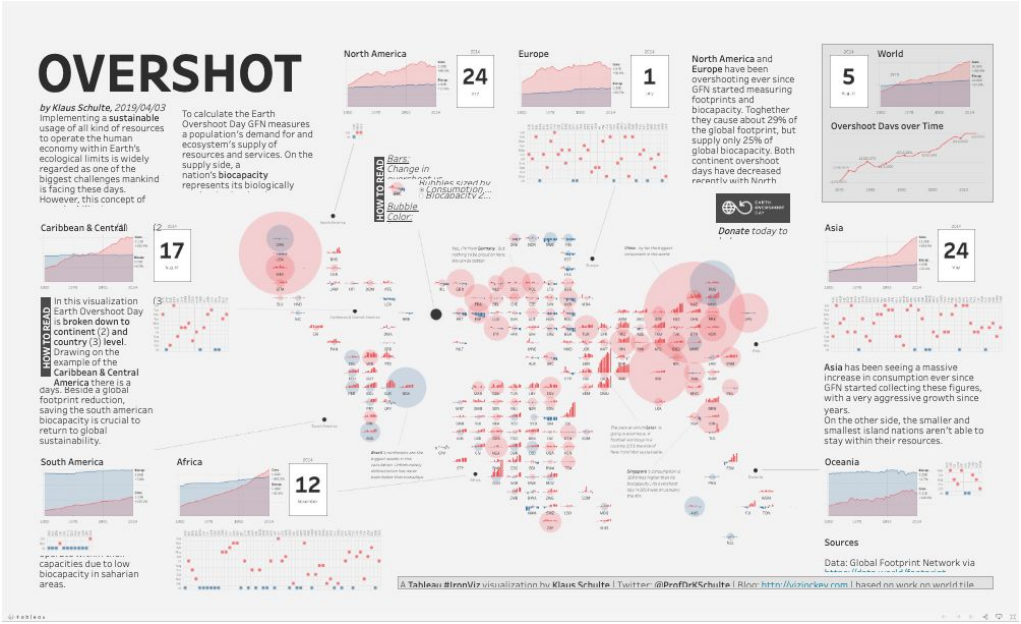
Hans Rosling

Data Dimensions

(Bertin Variables)

Size

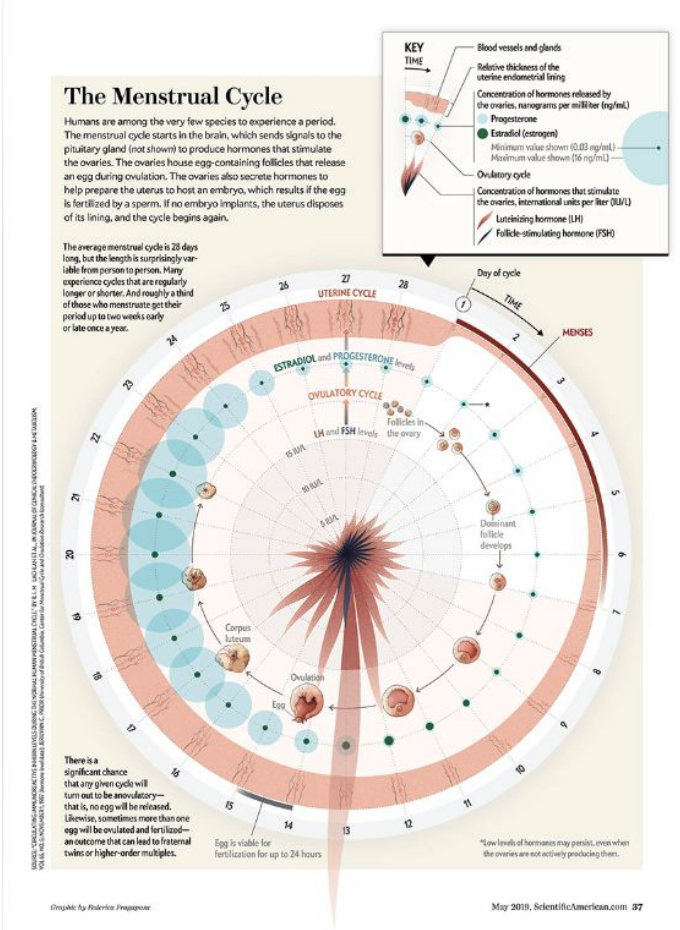
- Human perception of size differences
- Changes in length, area or repetition



Source

Position

- Changes in x, y, (z) location
- Good when precision matters
- Order, length, associative



Source

Colour

- Difficult for humans to perceive vs position or size
- Colours and categories must be mentally linked, remembered and referred to without confusion.
- Consider Accessibility - colour blindness
- Intuitive Colour palettes (i.e: using blue for bodies of water)

Source: Fullstack D3, Amelia Wattenberger

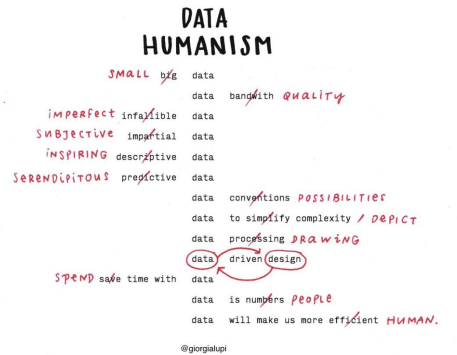
In-Class Activity

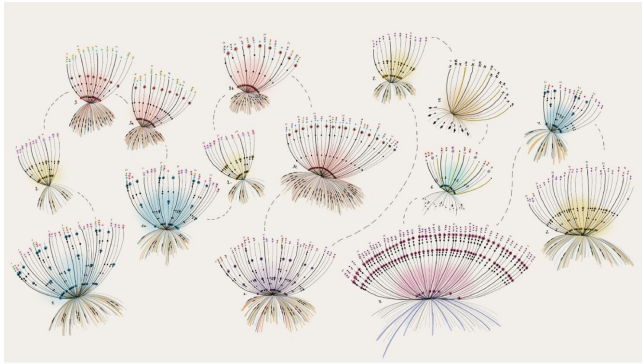
Data Humanism

Data Humanism

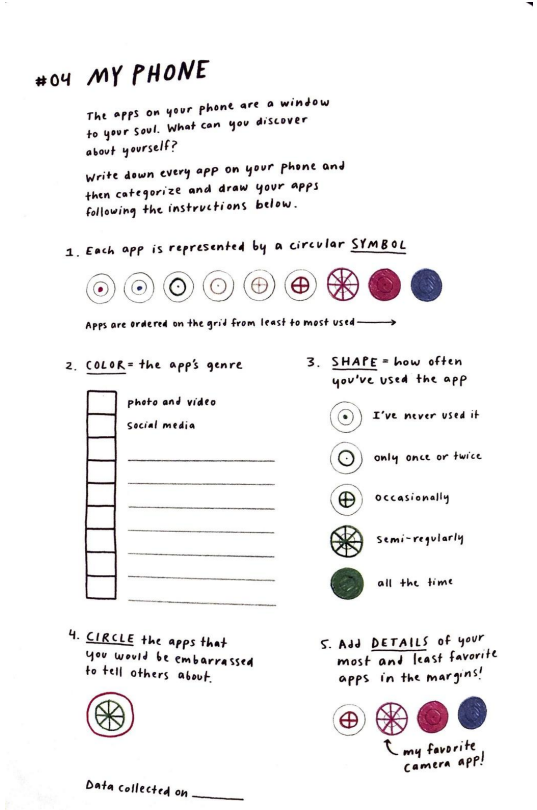
“We are ready to question the impersonality of a merely technical approach to data to begin designing ways to connect numbers to what they really stand for: knowledge, behaviors, people” - Giorgia Lupi

- School of thought in data visualization developed by [Giorgia Lupi]
- Embrace Complexity, Move beyond standards (sketching with data), Embrace Imperfection.





In-Class Activity - Data Humanism


#04 MY PHONE

The apps on your phone are a window to your soul. What can you discover about yourself?

Write down every app on your phone and then categorize and draw your apps following the instructions below.

1. Each app is represented by a circular SYMBOL

Apps are ordered on the grid from least to most used ⟶

2. COLOR = the app's genre

photo and video
social media

3. SHAPE = how often you've used the app

I've never used it
only once or twice
occasionally
semi-regularly
all the time

4. CIRCLE the apps that you would be embarrassed to tell others about.

5. Add DETAILS of your most and least favorite apps in the margins!

my favorite camera app!

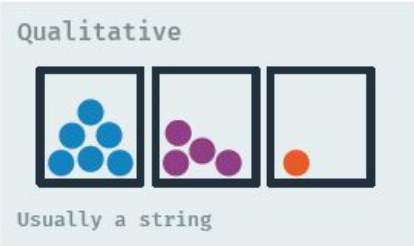
Data collected on _____

- 20-30 Minute Activity
- Use markers and coloured pencils to build your colour palette
- Any surprising insights?

Stats 101

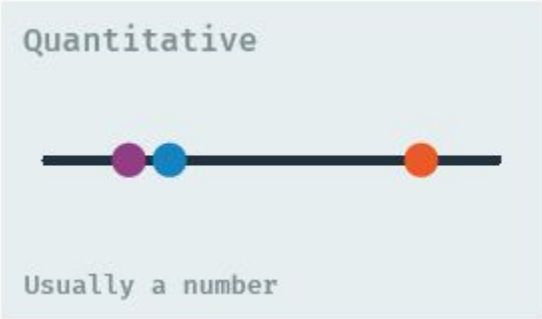
Qualitative Measures

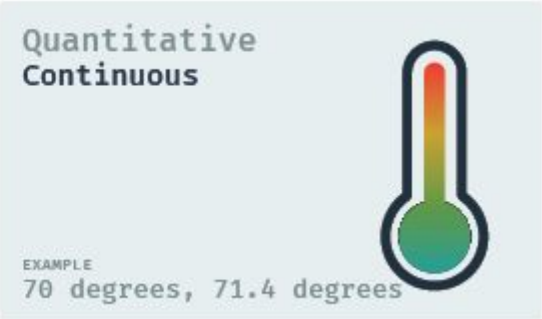
- Usually a string
- Binary
- Nominal/ordinal
- Examples: Dates & names



Quantitative Measures

- Usually a number
- Discrete/continuous
- Profit, height, weight, temperature





Measures & Dimensions

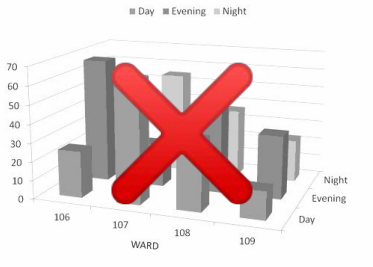
- Common to have qualitative and quantitative measures named as this in BI tools (SAP, Looker, Tableau)
- Measures = Quantitative or numeric values, usually dependent
- Dimensions are qualitative or categorical variables, usually independent

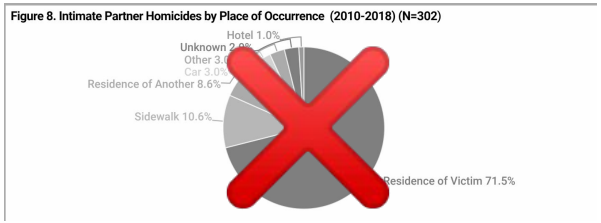
Measure or Dimension?	
Sales in US $	
Months	
Order ID	

Types of Charts

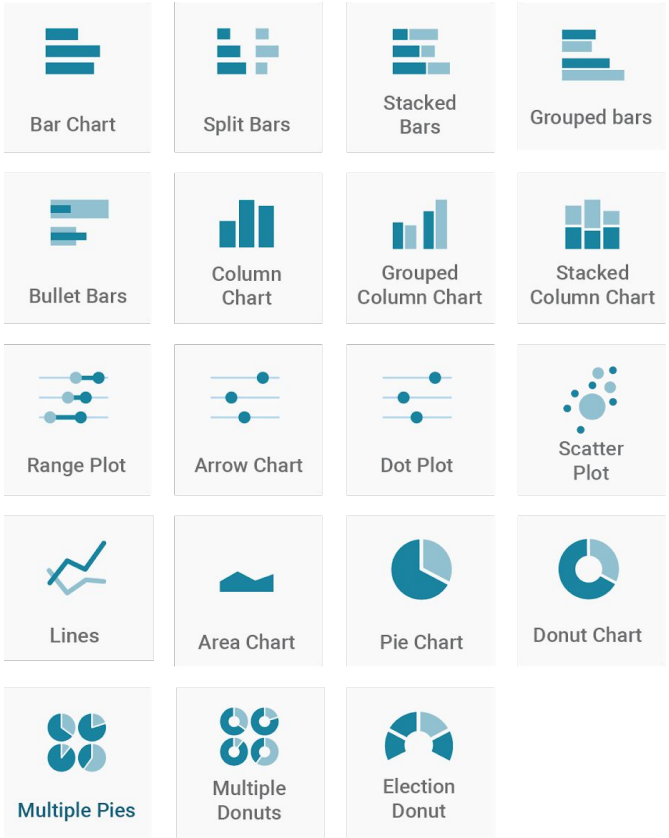
How to choose the right chart?

- No single right way to visualize data
- Iteration
- Rough Guide:
  - **Think about the data you're visualizing** for example: Line charts -> use **continuous** data
  - 🆘 Pie charts 🆘-> less than 4-5 "slices"
  - No 3D Charts!

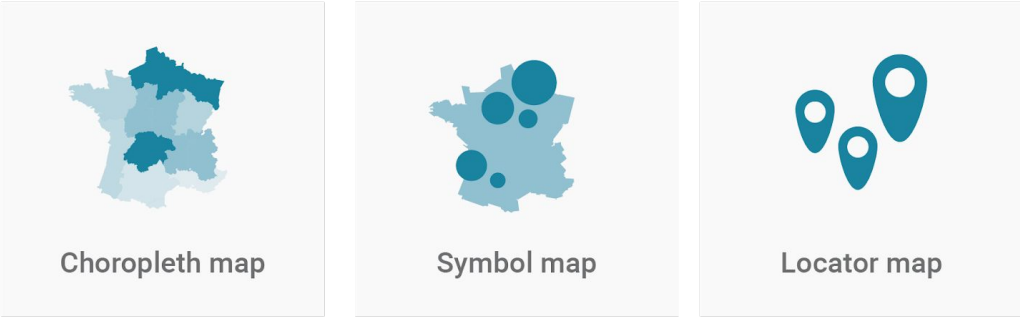




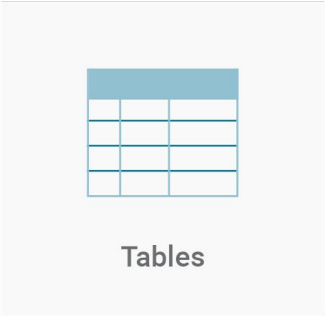
Charts



Maps



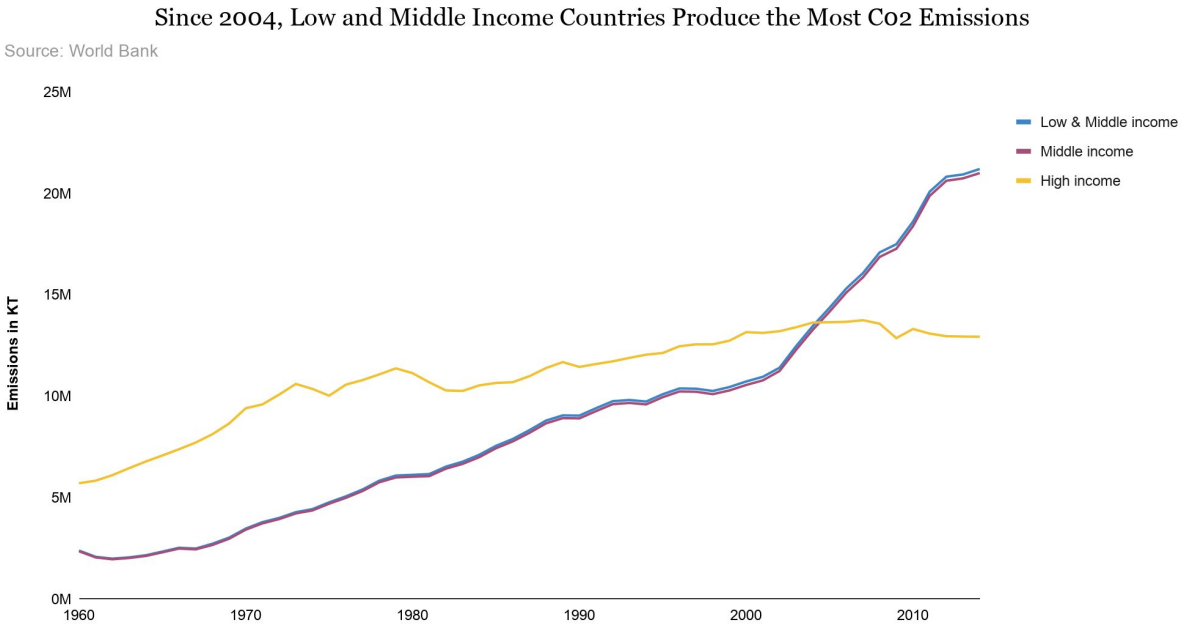
Tables



Source: Data Wrapper

Google Sheets Viz

Google Sheets - Line Chart



- To follow along, save a copy of the data to your Drive.

Assignment

Create a Visualization using given data on Google Sheets or on GitHub

("DataVizWorkshop_AssignmentData.csv")

- Make a copy of data in Sheets
- Choose a story
- Employ a Takeaway Title
- Remove any "chart-junk"
- Add a legend and a colour palette
- Use a Readable Font
- Consider Annotations, Tooltips or Labels *if it makes sense*
- **In addition - have Tableau Public downloaded + create account**

Questions?

See you next week!