

# DATA VISUALIZATION

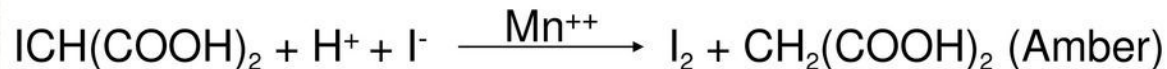
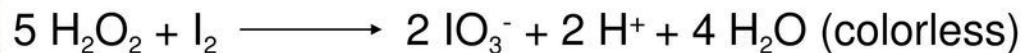
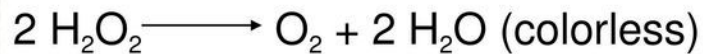
Aarón José Cabrera Martín  
Thaddaus Haase



# Research

## Briggs-Rauscher Oscillating Reaction:

This reaction can be described by the following sequence of reactions and each step is responsible different colors:





$t = 0$



$t = 5\text{s}$



$t = 10\text{s}$



$t = 15\text{s}$



$t = 20\text{s}$



$t = 25\text{s}$



$t = 30\text{s}$



$t = 35\text{s}$



$t = 40\text{s}$



$t = 45\text{s}$

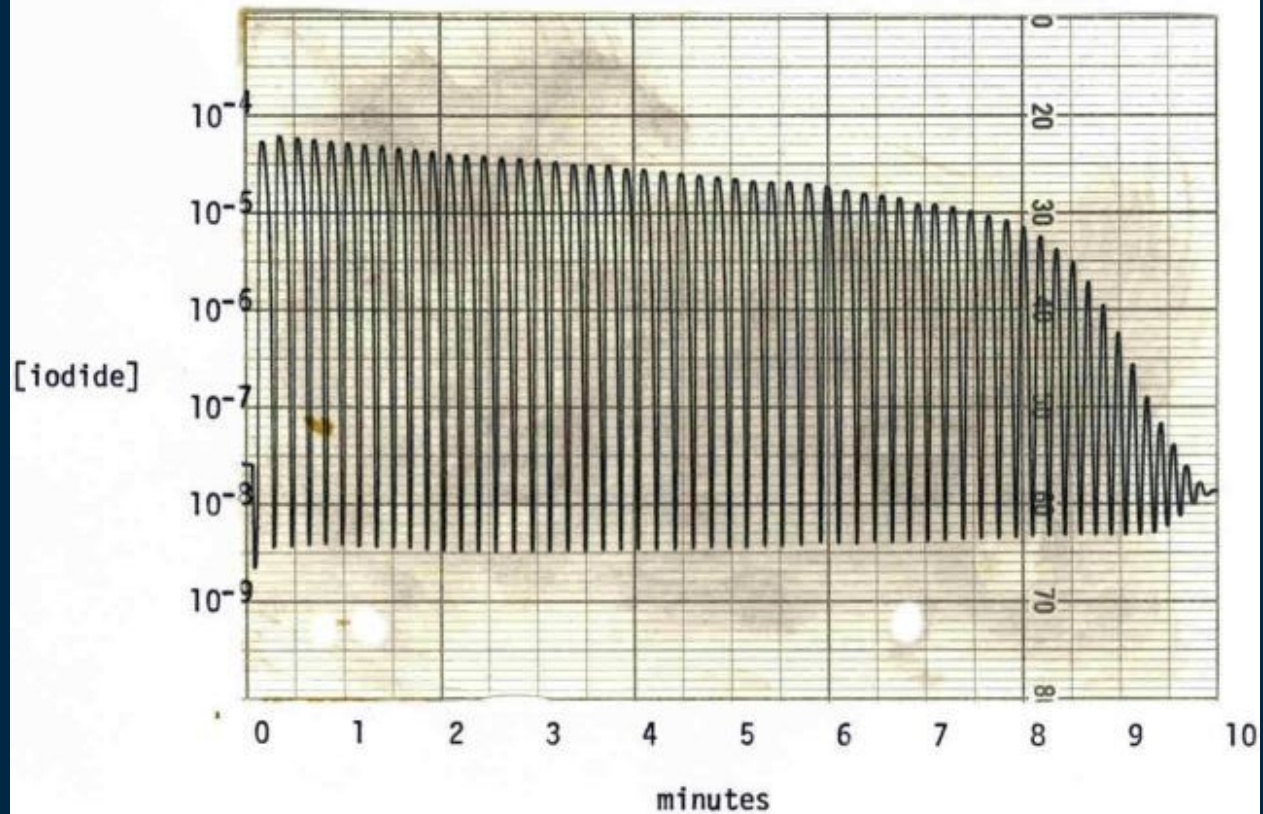


Figure . Oscillations produced by a solution of 0.050M potassium iodate, 0.038M malonic acid, 0.0050M manganese II sulfate, 0.88M hydrogen peroxide, 0.035M perchloric acid and 0.01% starch.

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2. Definition
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# History

The background of the slide is a dark blue field decorated with an abstract pattern of geometric elements. It includes numerous small squares in solid colors (pink, teal, orange) and as thin white outlines. Additionally, there are several thin, vertical white lines of varying lengths scattered across the composition, creating a modern, minimalist aesthetic.

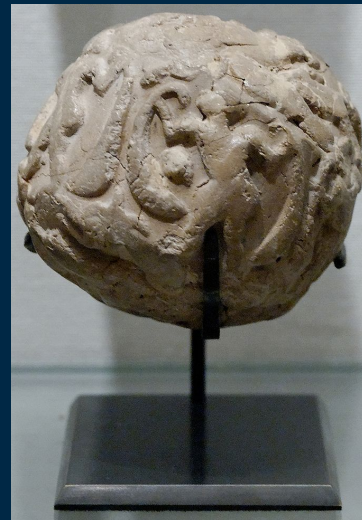
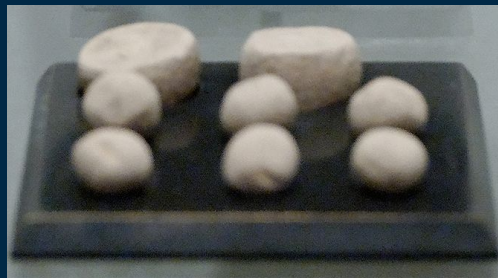


# Early begin

- Drawing
- Prehistory
- Stars map

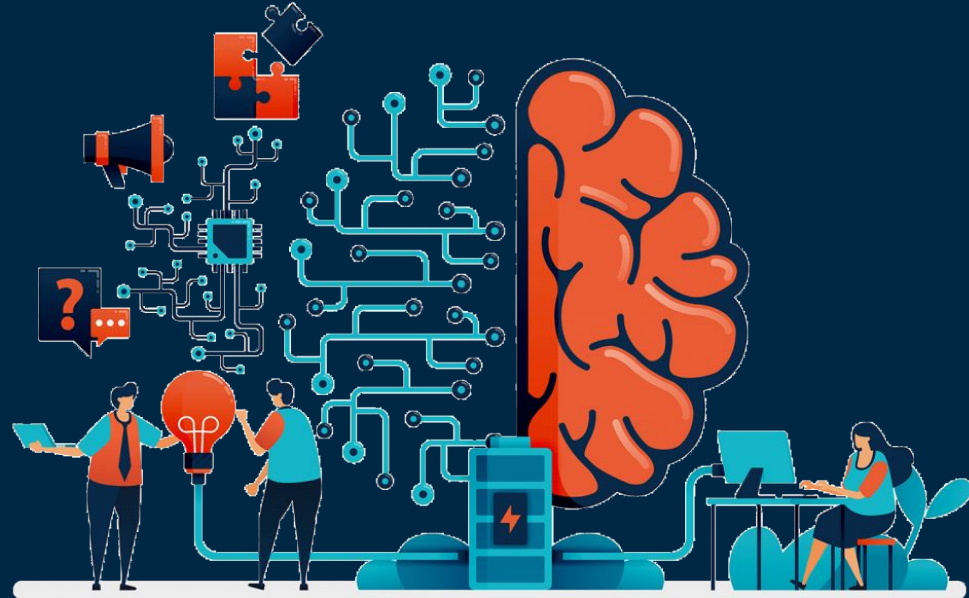
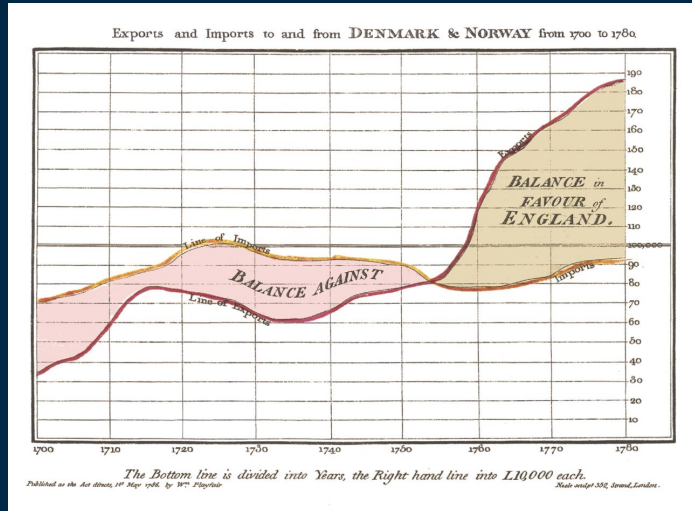


- Physical Artefacts
- Mesopotamia
- Clay tokens



# Modern Statistic Charts

- Bar, pie and line chart
- 18th Century
- Big Data
- AI



# Definition

The background is a dark blue field decorated with various geometric elements. It includes numerous small squares in shades of pink, orange, and teal. Some of these squares are solid, while others are hollow outlines. Additionally, there are several thin, light-colored vertical lines of varying lengths scattered across the composition, creating a modern, minimalist aesthetic.

# Graph or Chart?



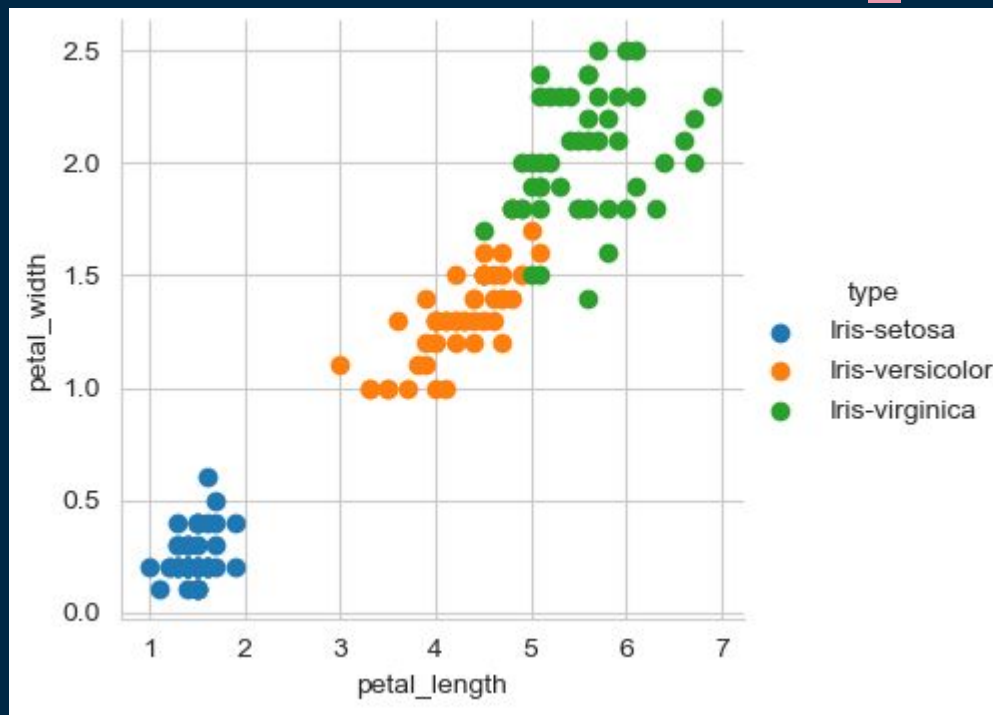
Graphs

VS



Charts

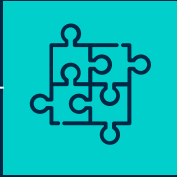
# Is Data Visualization Useful?



The background is a dark blue field decorated with a pattern of small, colorful squares (pink, teal, orange) and thin white vertical lines of varying lengths, creating a modern, geometric aesthetic.

# Advantages and disadvantages

# Advantages



Easier to keep  
attention

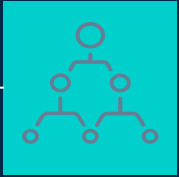


Easier to  
learn



Most of the  
human perception  
is visual

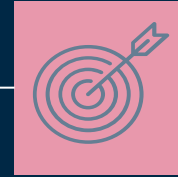
# Advantages



Easier to search  
patterns and  
clustering



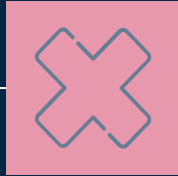
Understanding  
the story



Find errors



# Disadvantages

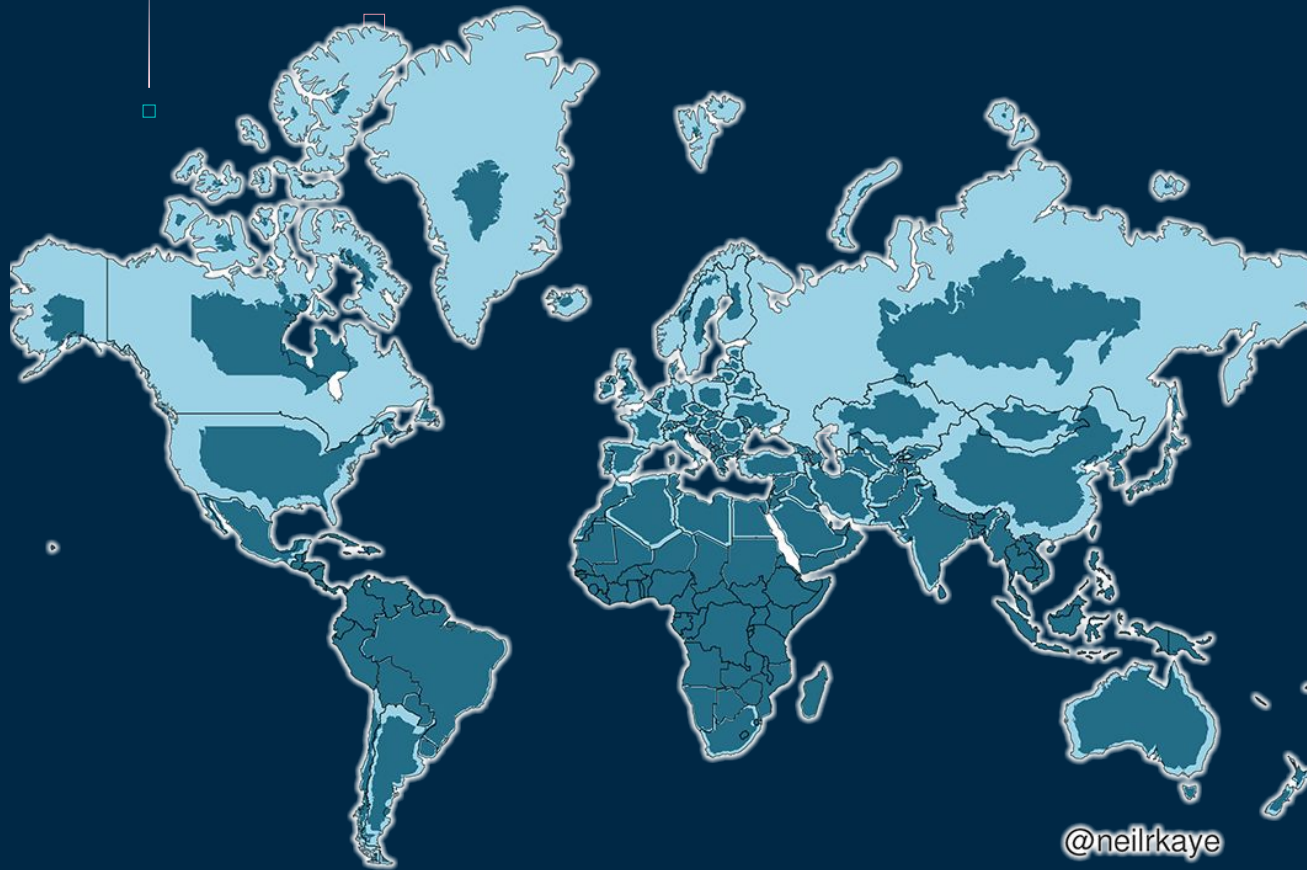


Misinformation



Manipulation

MERCATOR PROJECTION VS THE TRUE SIZE OF COUNTRIES



@neilrkaye

■ INFORMACIÓN CORONAVIRUS S; ES LA SEGUNDA CIFRA MÁS ALTA DE TODA LA



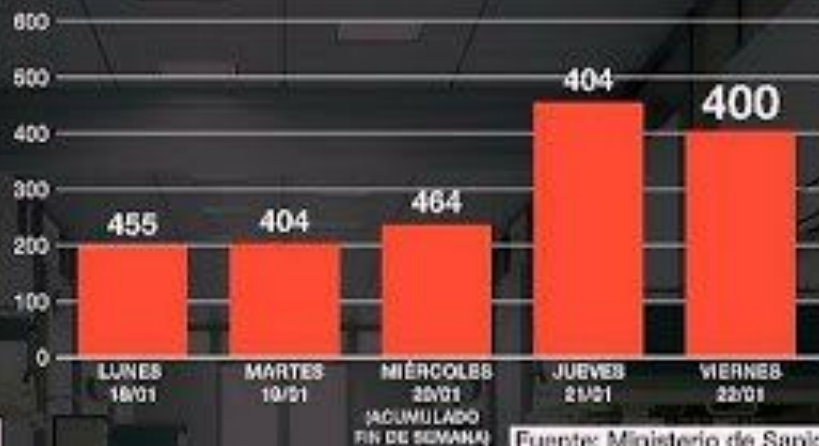
■ DIRECTO

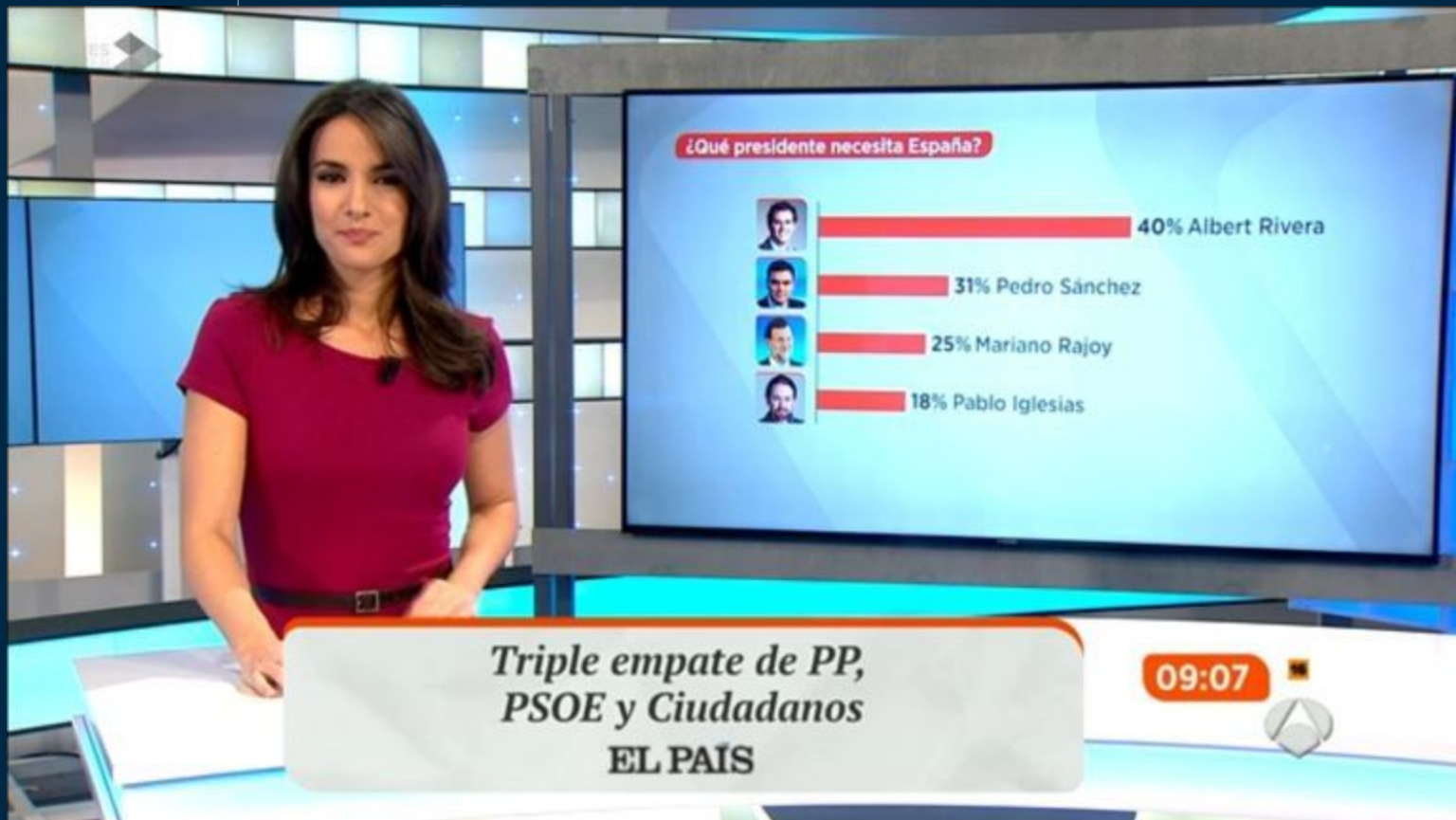
■ Redacción 'laSexta Noticias'

■ EVOLUCIÓN DEL CORONAVIRUS EN ESPAÑA

SANIDAD NOTIFICA 42.885 CASOS EN 24 HORAS,  
LA SEGUNDA CIFRA MÁS ALTA DE LA PANDEMIA

## MUERTES NOTIFICADAS





¿Qué presidente necesita España?



40% Albert Rivera



31% Pedro Sánchez



25% Mariano Rajoy

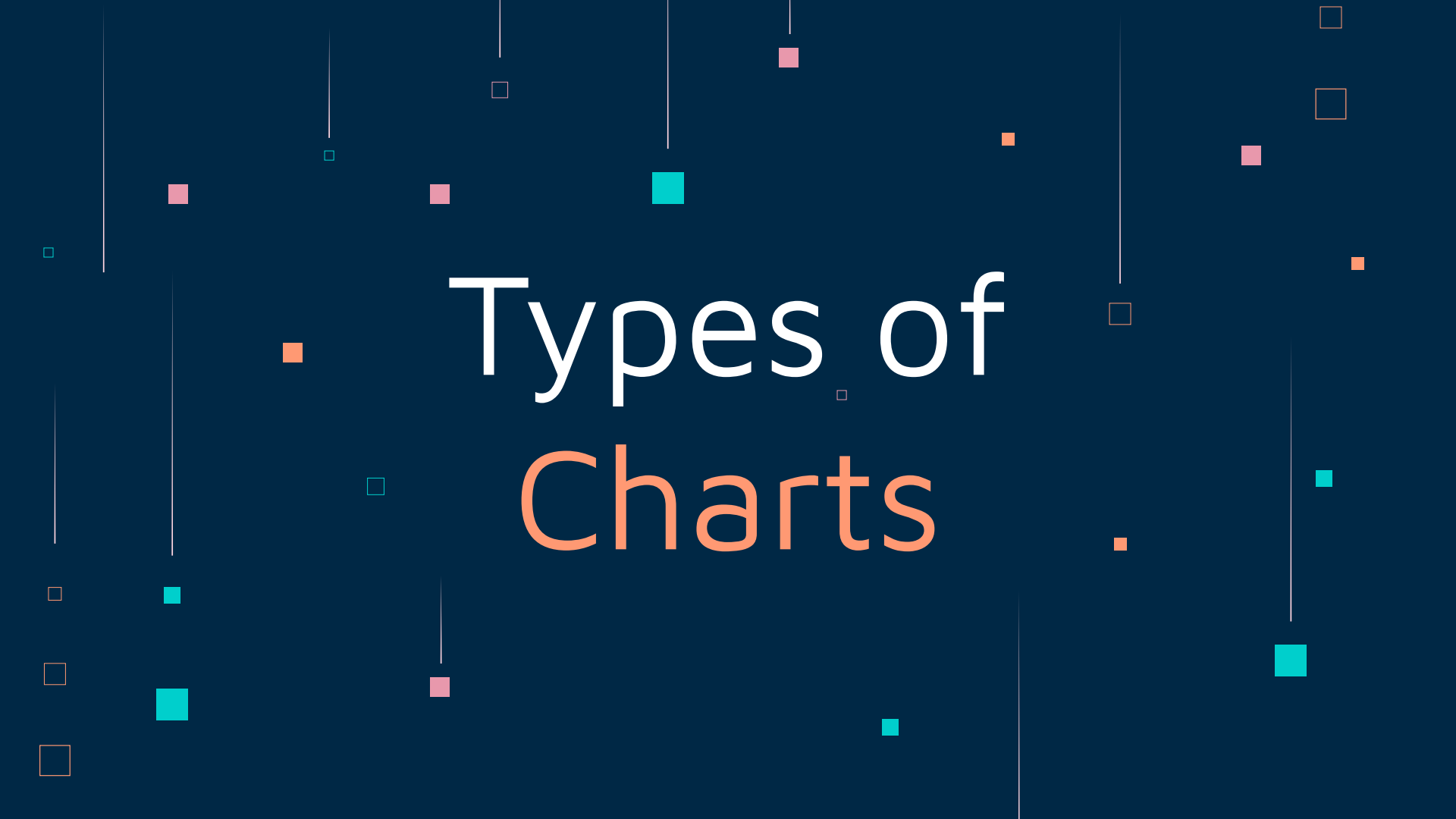


18% Pablo Iglesias

*Triple empate de PP,  
PSOE y Ciudadanos*  
**EL PAÍS**

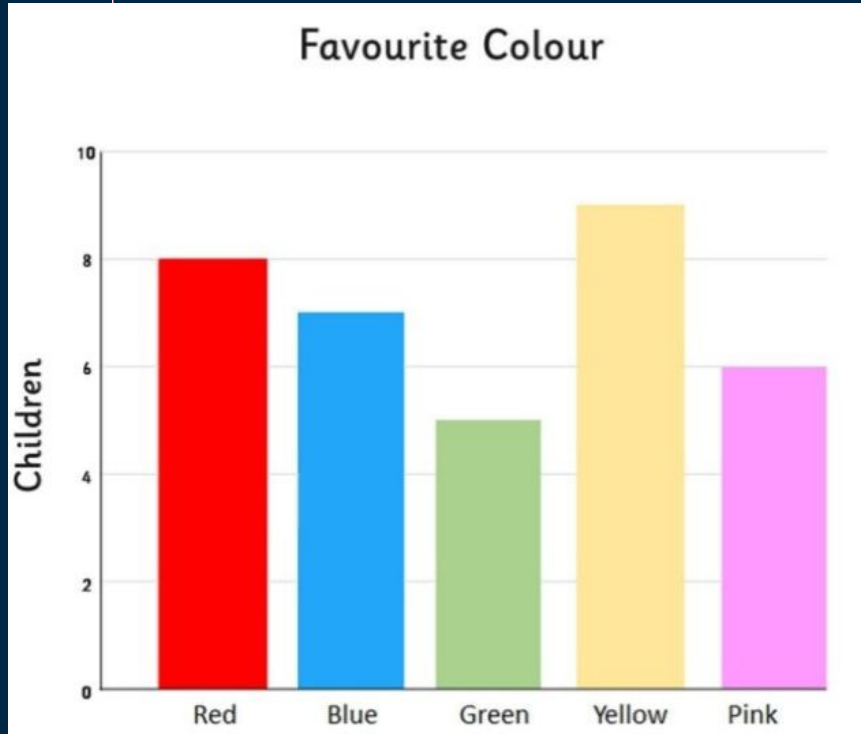
09:07



The background is a dark blue gradient. It is decorated with various geometric elements: thin white vertical lines of varying lengths, small squares in teal, orange, and pink, and larger squares in teal and orange. The text 'Types of Charts' is centered in the middle of the image.

# Types of Charts

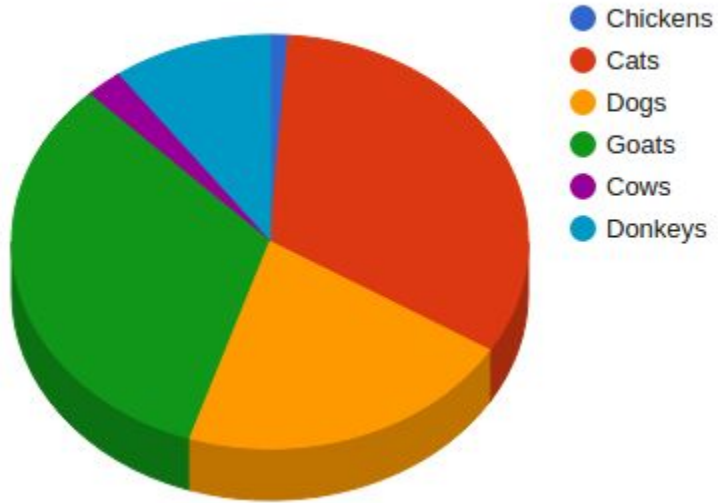
# Column Chart



- Proportional Rectangles
- Discrete categories
- Good for comparing

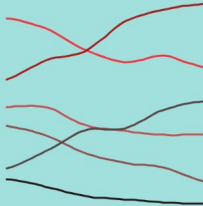
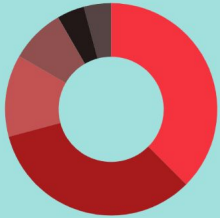
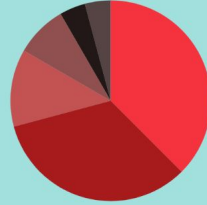
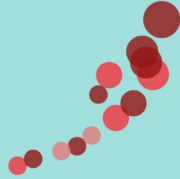
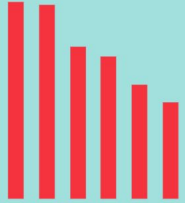
# Pie Chart

Animals



- Proportional angle
- Proportional area
- Different colors

# Other Charts



- Bubble
- Line
- Heat map
- Scatter Plot



The background is a dark blue gradient. It features several thin, vertical white lines of varying lengths scattered across the frame. Interspersed among these lines are small squares in three colors: teal, light pink, and orange. Some squares are solid, while others are outlined. The overall aesthetic is modern and minimalist.

# Good Data Visualization

# Color



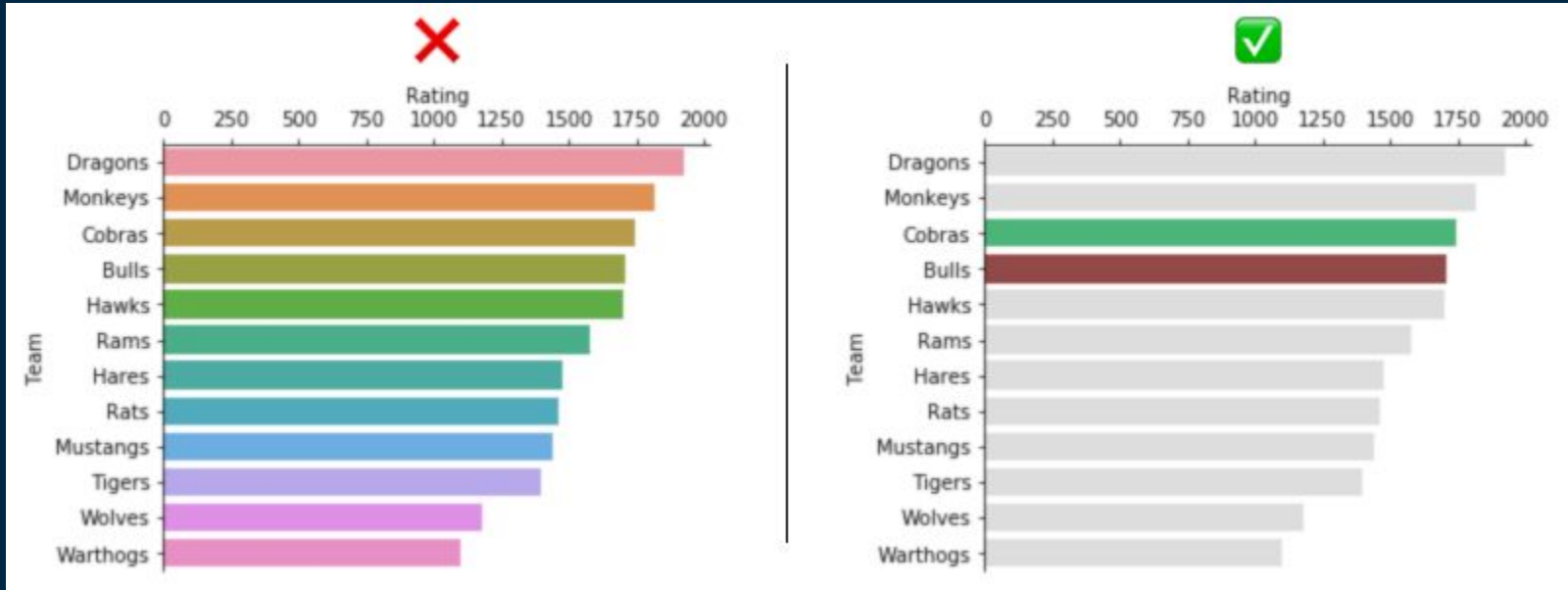
- Use warm colors & blue
- Avoid pure colors
- Make your colors similarly “colorful”
- Control contrast to other colors and background

# Color

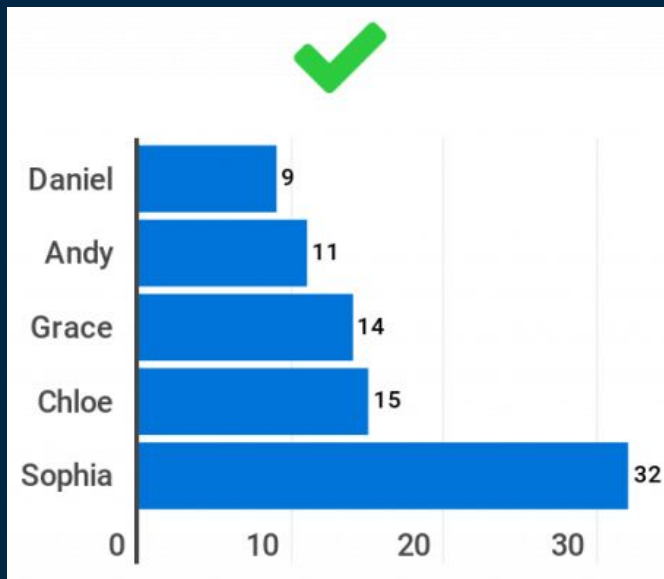


- Make your colors similarly “colorful”
- Choose a background that’s desaturated enough

# Keep it simple



# Watch details



The background is a dark blue field decorated with various geometric elements. It includes numerous small squares in white, light blue, and light orange. Some of these squares are connected to the top edge of the frame by thin, vertical white lines, creating a sense of depth or falling objects. The overall aesthetic is modern and minimalist.

# JavaScript

# Chart.js

- Easy to use.
- Works on canvas.
- Animation friendly.
- Good Documentation and examples.



The background is a dark blue field decorated with an abstract pattern of small squares and thin vertical lines. The squares are in various colors: white, light blue, orange, and teal. Some squares are solid, while others are just outlines. The vertical lines are thin and white, extending from the top or bottom of the frame. The overall aesthetic is modern and minimalist.

# Other Libraries



# Other libraries

- D3.js
- Chartist.js
- FusionChart
- GoogleChart



CHARTIST.JS



FusionCharts

The background is a dark blue field decorated with a pattern of small squares and thin vertical lines. The squares are in three colors: light blue, orange, and pink. Some squares are solid, while others are hollow. The vertical lines are thin and white, extending from the top edge of the frame. The text 'Let's Talk Business' is centered in the middle of the image.

# Let's Talk Business

# Data visualization in businesses



- Decision Making
- Summarise large amounts of data
- visualize growth to discover trends
- Reveal unnoticed opportunities

The background is a dark blue gradient. It is decorated with various geometric elements: thin white vertical lines of varying lengths, small squares in teal, orange, and pink, and larger squares in teal and orange. The text 'Other Tools' is centered in the middle of the image.

# Other Tools

# Tableau

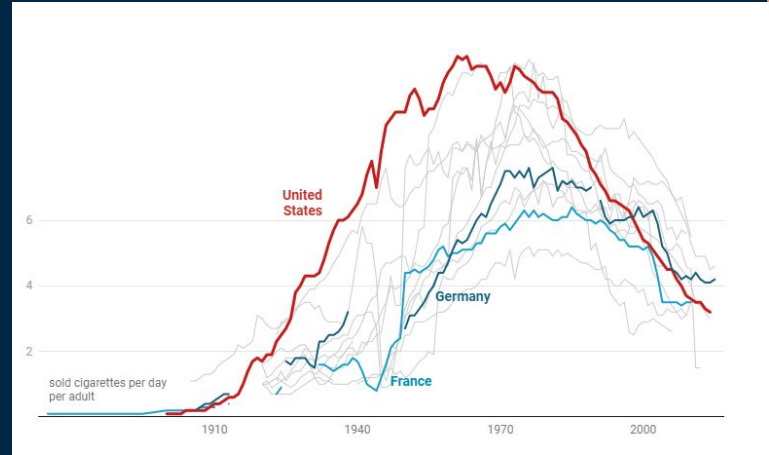
- Online, desktop and mobile tool.
- Business oriented.
- “Best Business Intelligence Solution”



# Datawrapper

- Powerful online tool.
- Chart, maps and tables.
- No programming.
- JS api.

# Datawrapper



# Do you have any questions?

## THANKS



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# Bibliography

- Data Visualization History
- Chart History
- Definition
- Graph or Chart
- Advantages
- Choose Colors
- Colors Combination



# Bibliography

- Chart.js
- D3.js
- Tableau
- Datawrapper
- Slides Theme
- Chartist.js
- FusionChart
- GoogleChart

