

# Historia grafiki statystycznej

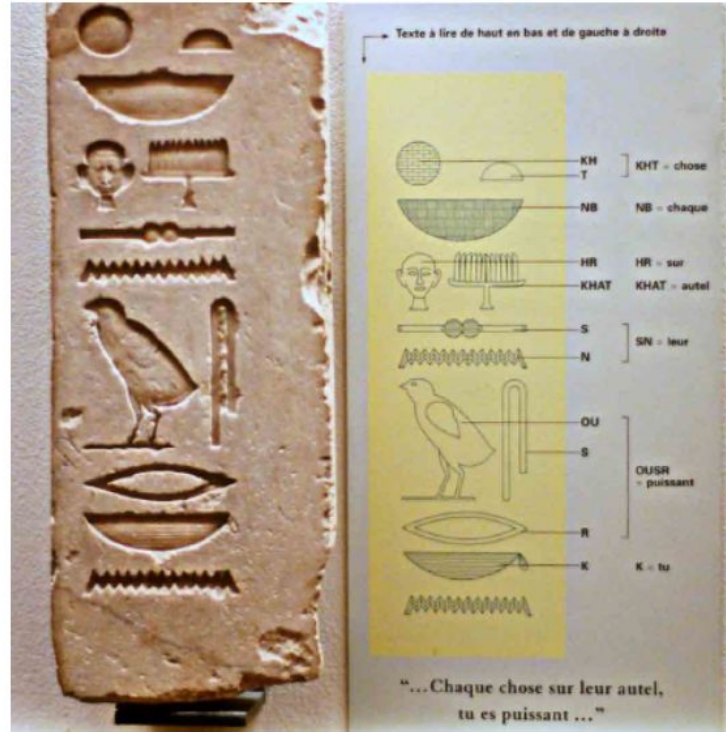
Wstęp do Eksploracji Danych

Zaczniemy bardzo daleko...



... 17 tysięcy lat temu.

# Hieroglify



Tekst należy czytać od lewej do prawej, z góry na dół.

= rzecz

= wszystkie

= ołtarz

= ich

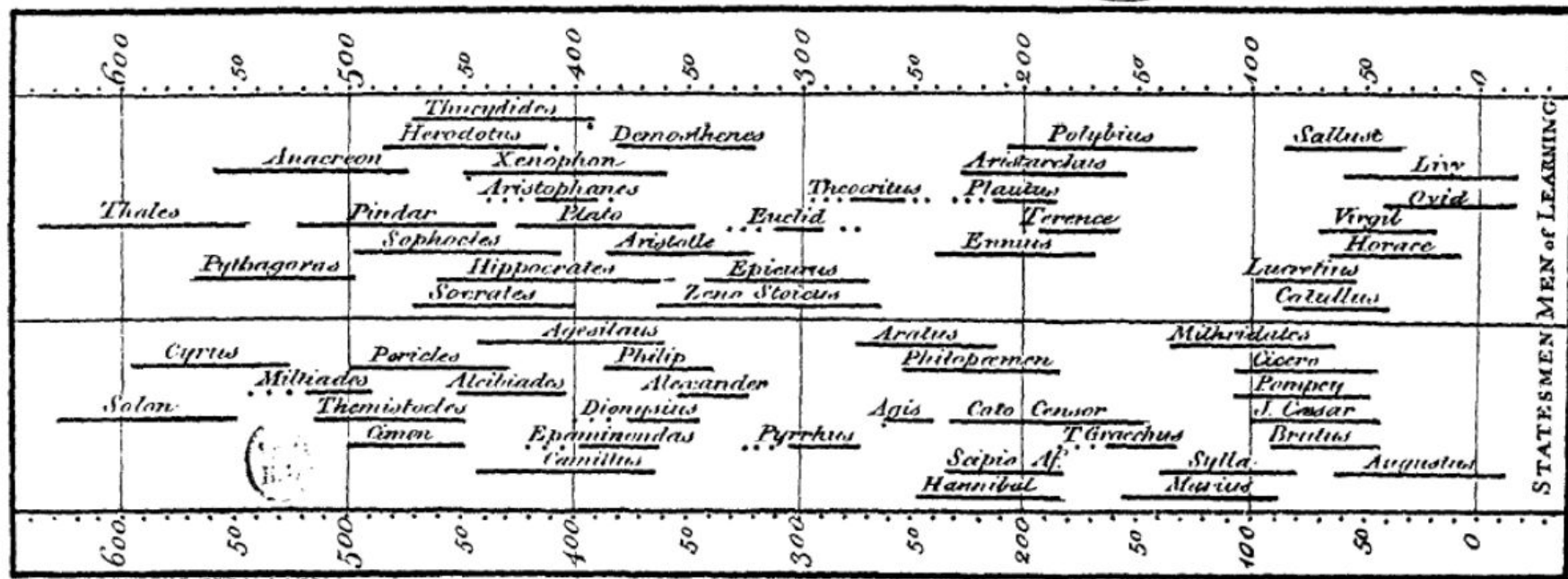
= potężny

= ty

= Wszystko na ich ołtarz, jesteś potężny

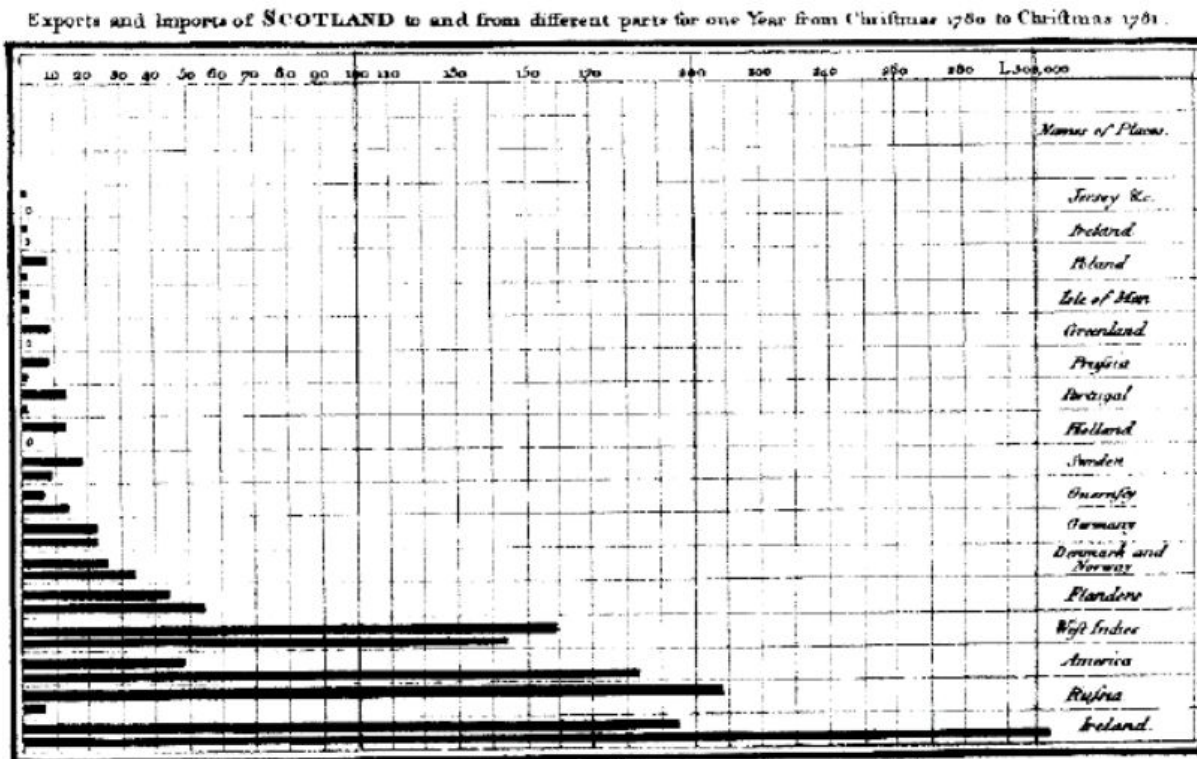
# Joseph Priestley

## *A Specimen of a Chart of Biography.*



J. Priestley L.L.D. F.R.S. inv. et del.

# William Playfair

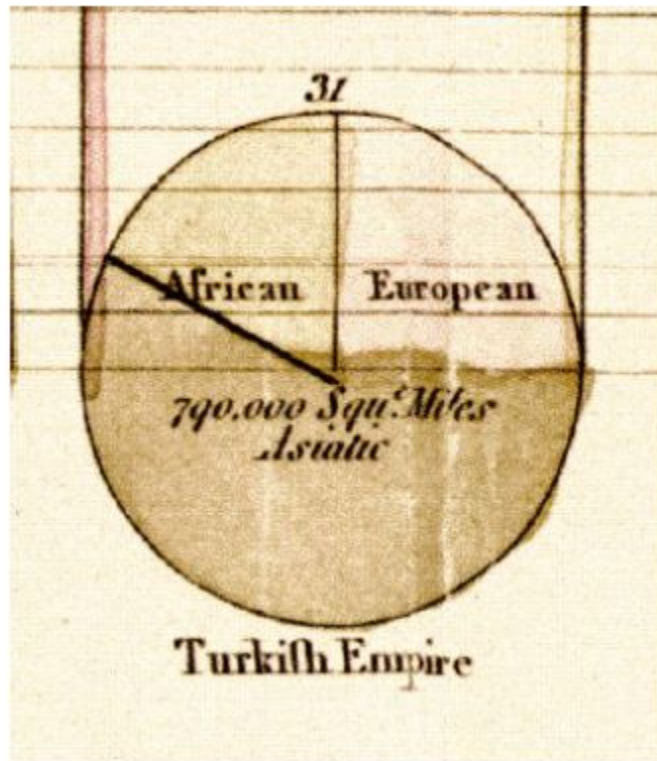


The Upright divisions are Ten Thousand Pounds each. The Black Lines are Exports the Reddoubles Imports.

Published as the Act directs June 7<sup>th</sup> 1782 by W<sup>m</sup> Playfair

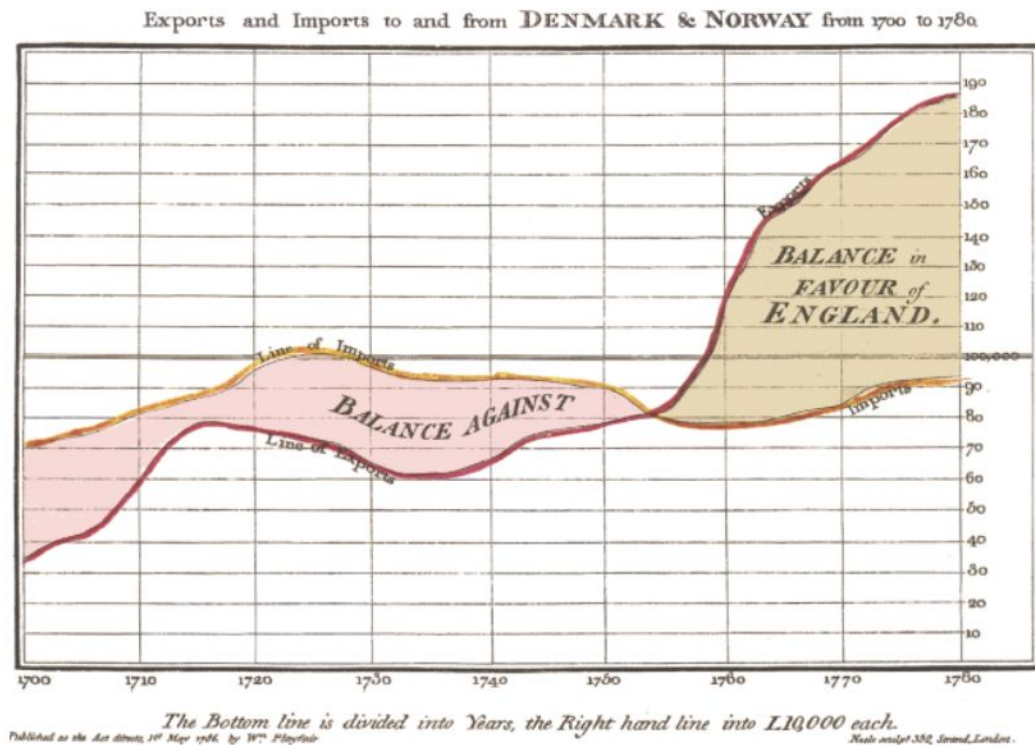
Printed by J. Smith, Strand. London.

# William Playfair

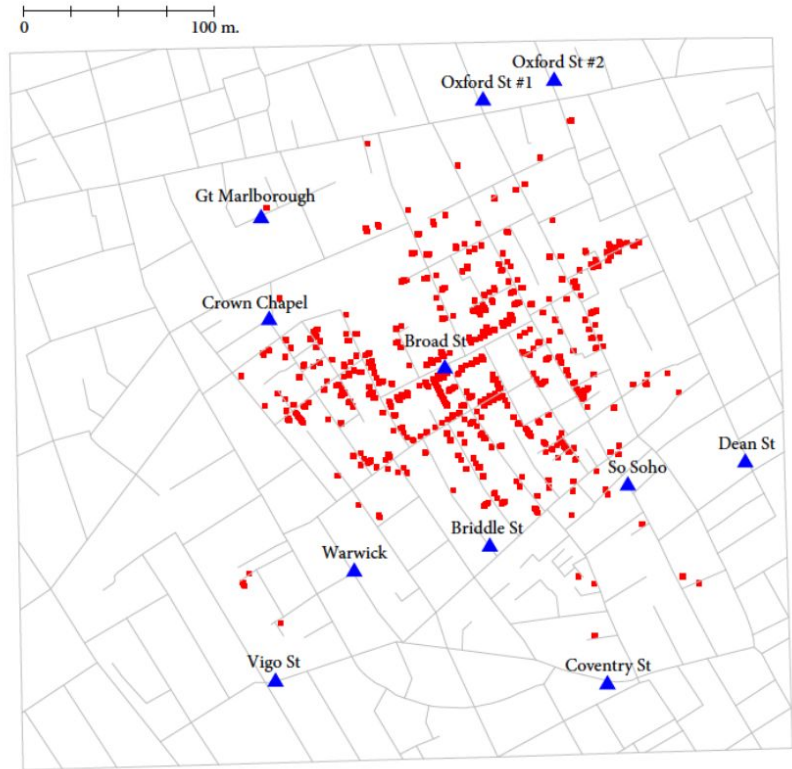
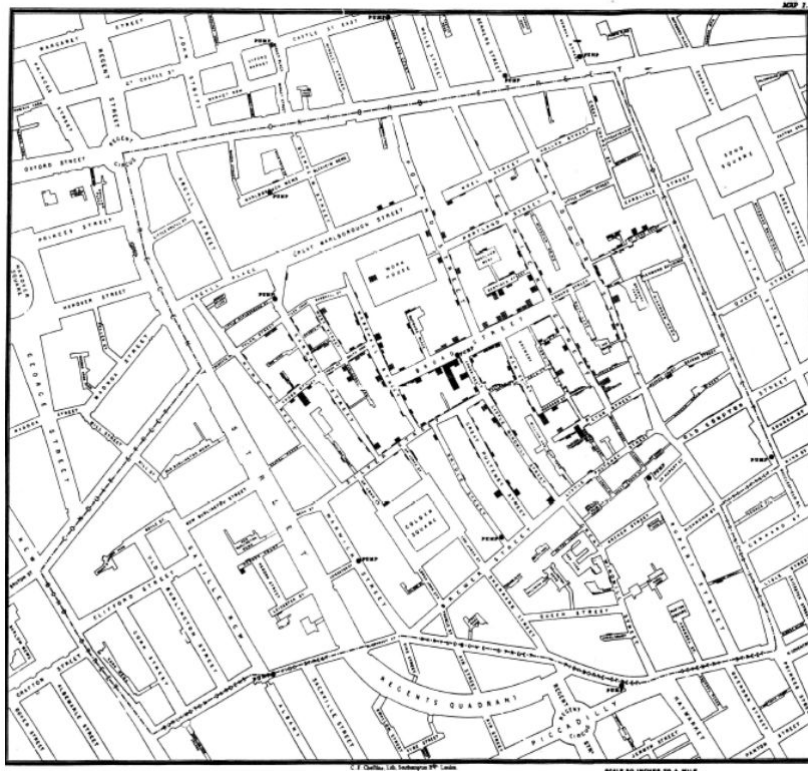




# William Playfair

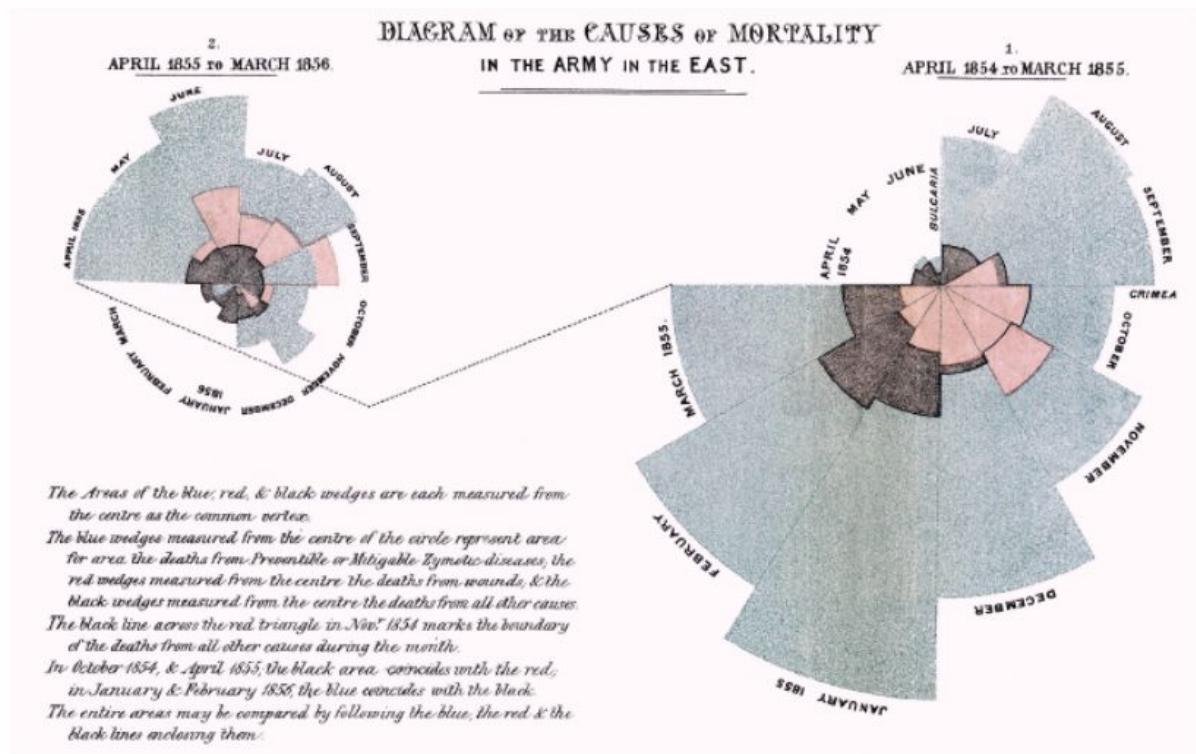


# John Snow

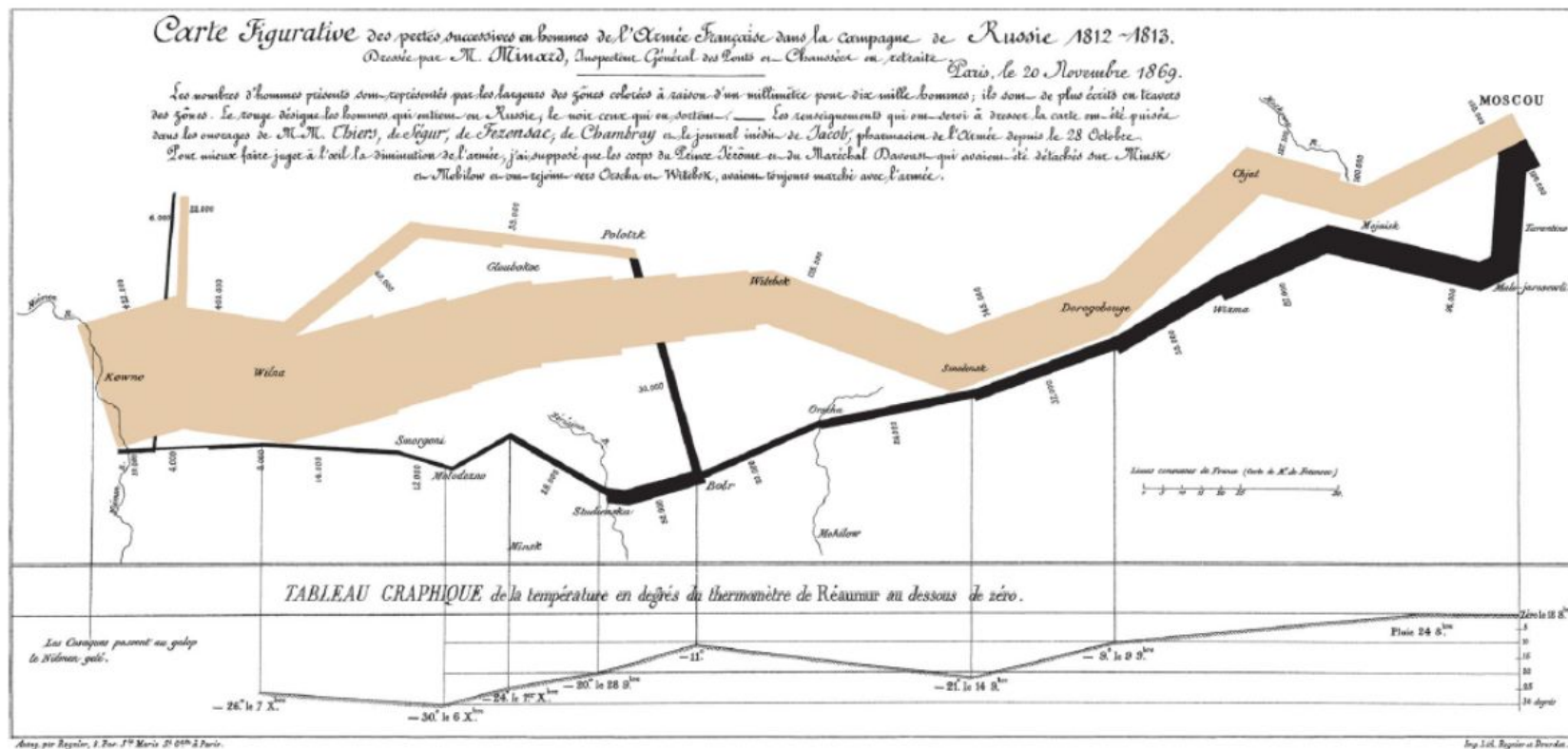




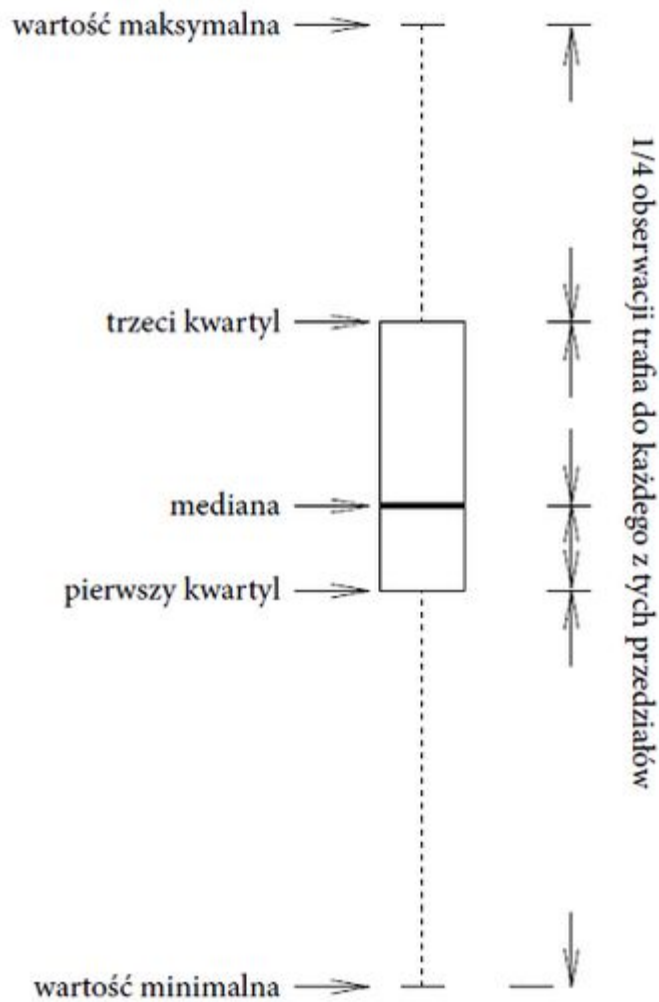
# Florence Nightingale

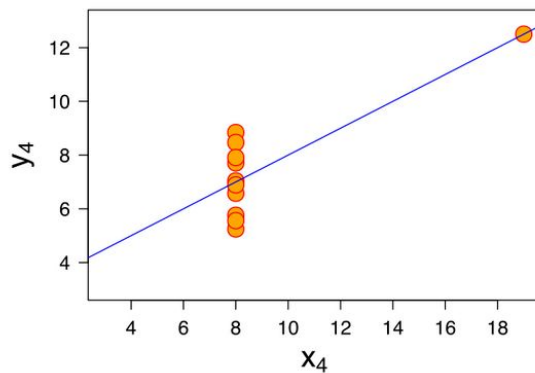
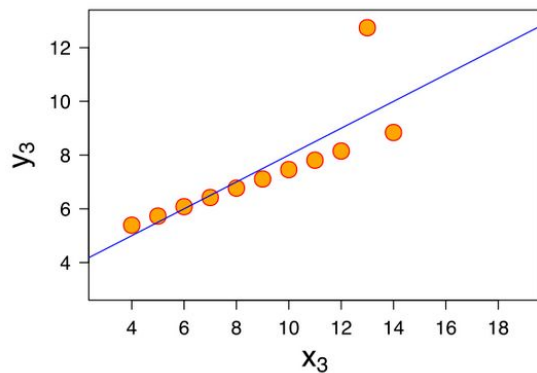
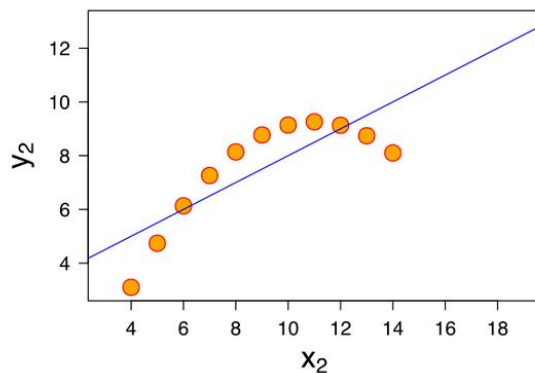
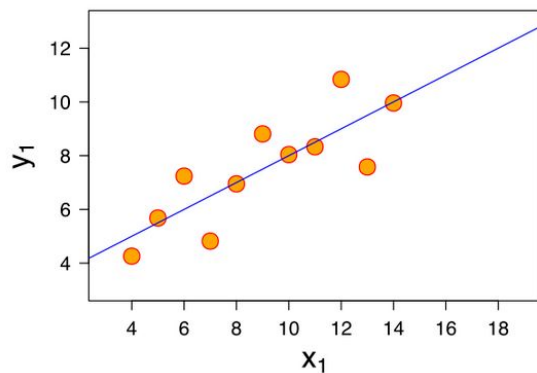


# Charles Minard



# John Tukey

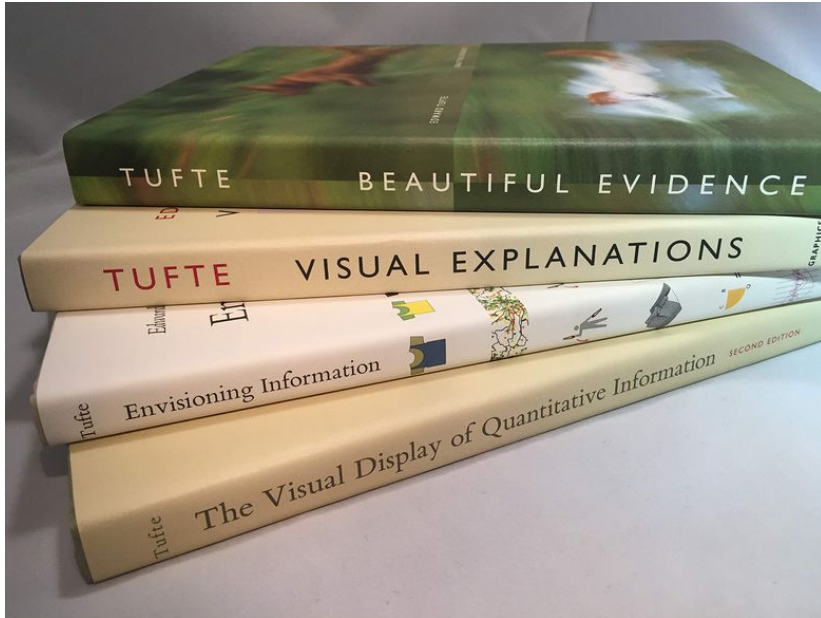




Kwartet  
Anscombe'a

# Edward Tufte

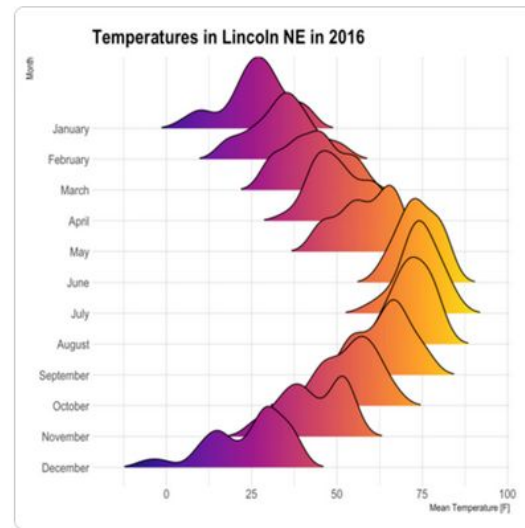
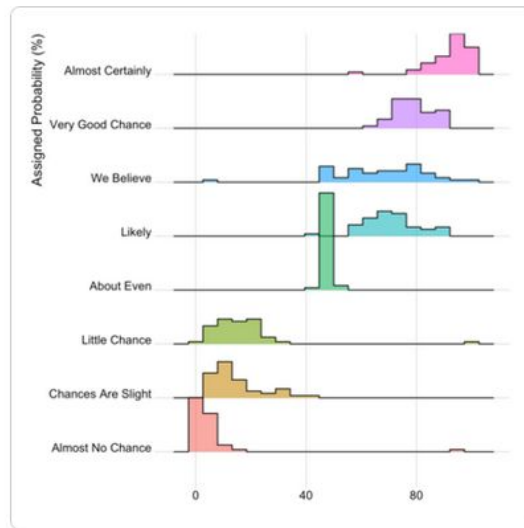
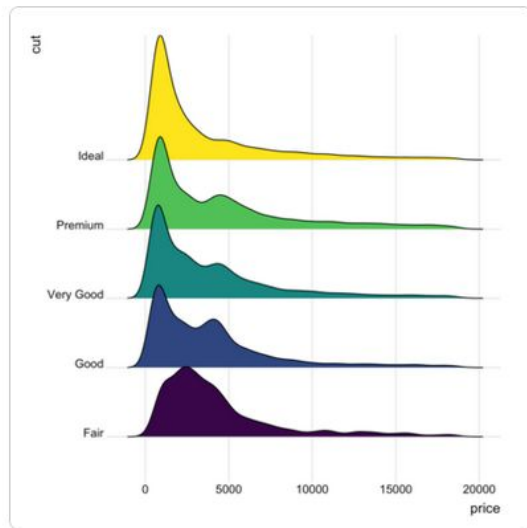
[www.edwardtufte.com](http://www.edwardtufte.com)



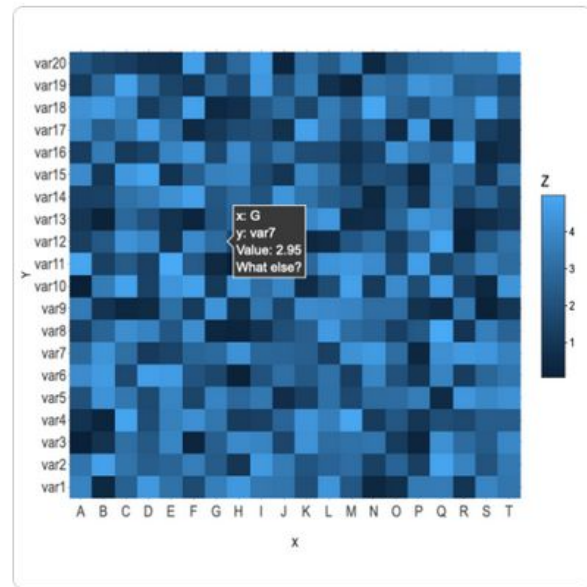
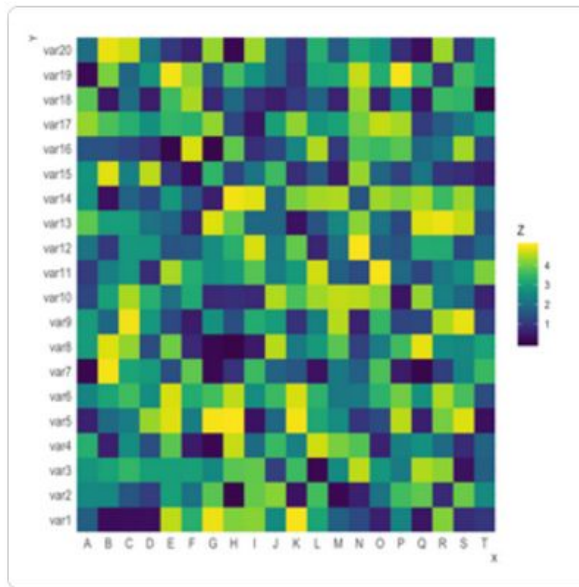
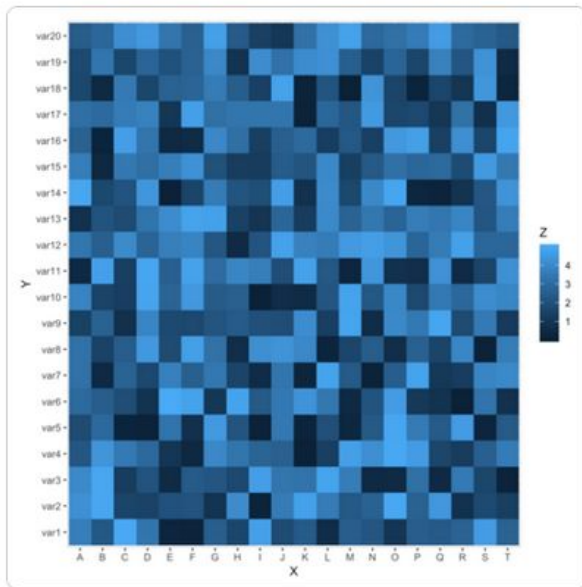


# Inne rodzaje wykresów

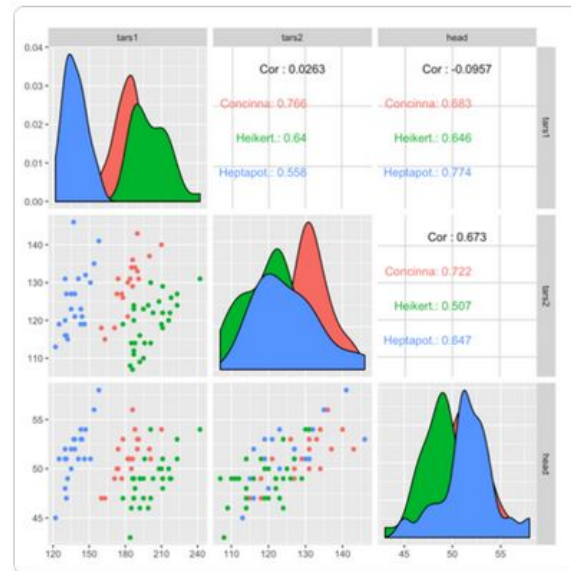
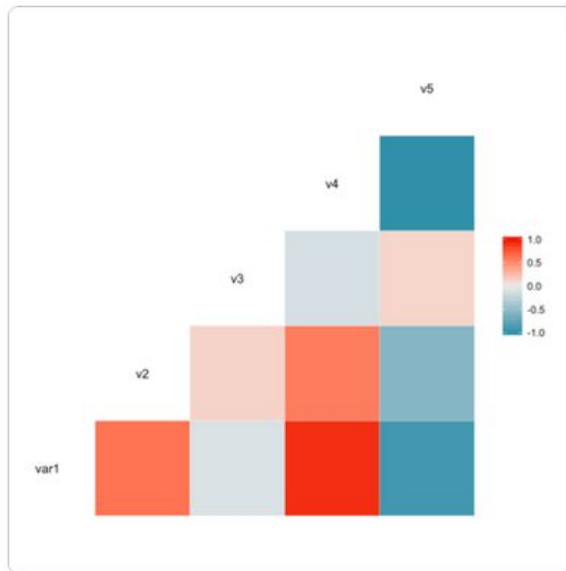
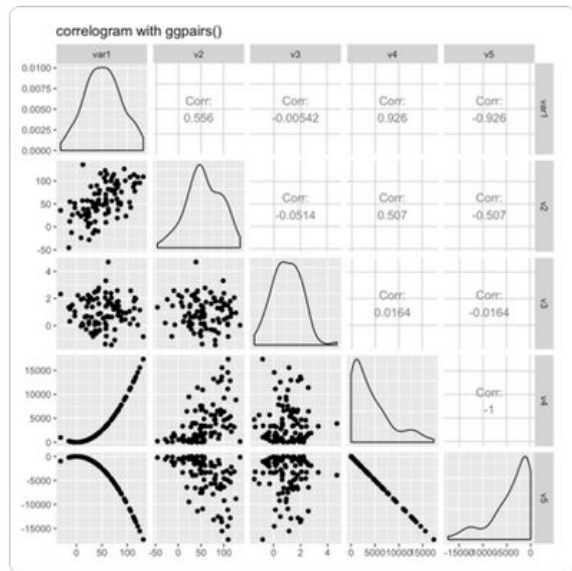
# Ridgeline chart



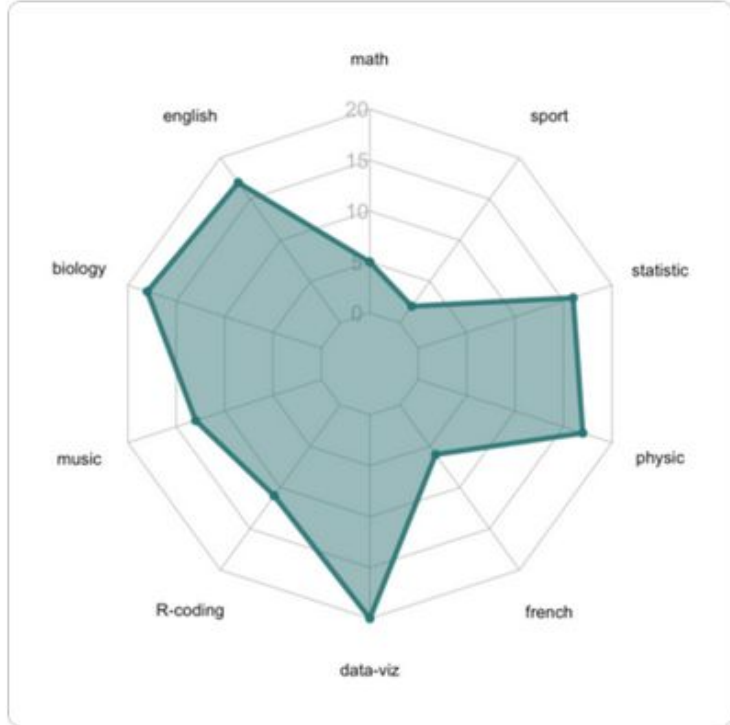
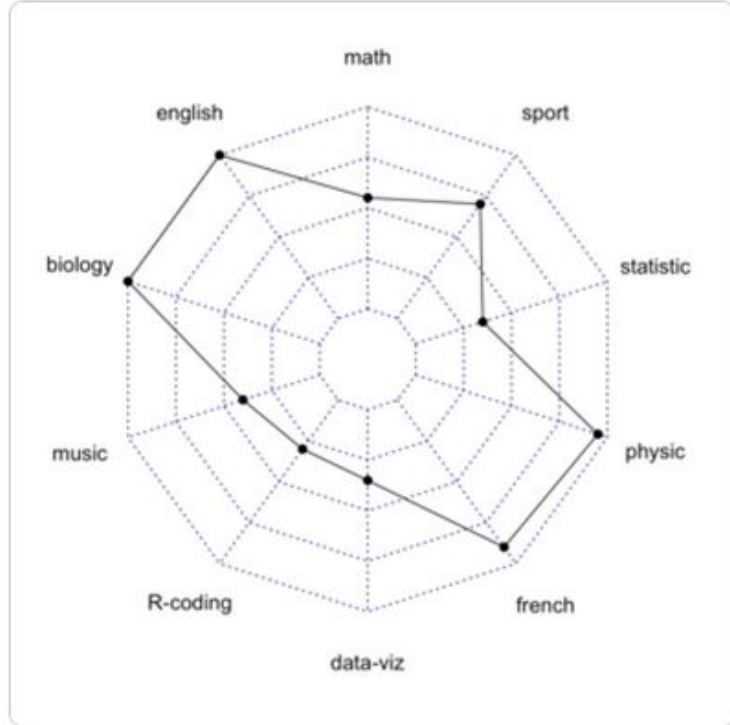
# Heatmap



# Correlogram

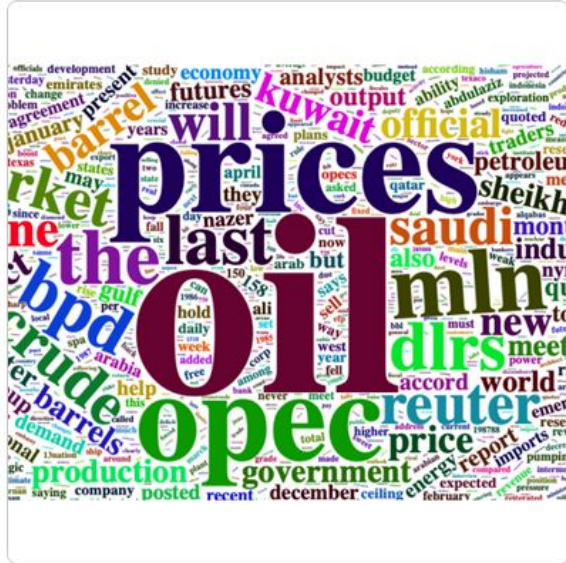


# Radar chart

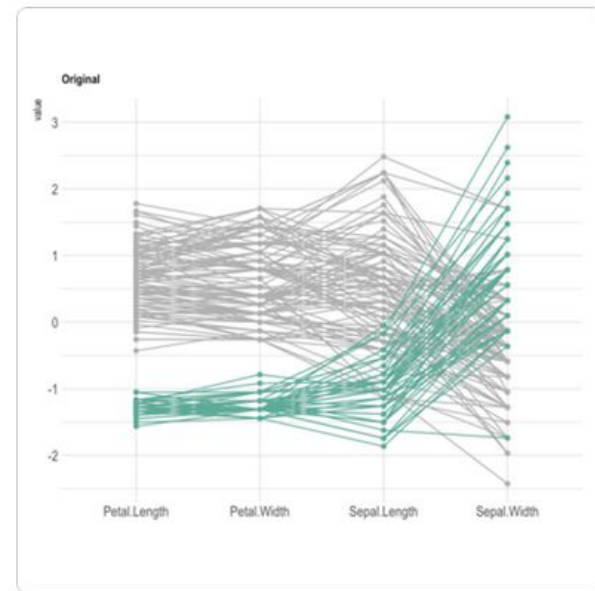
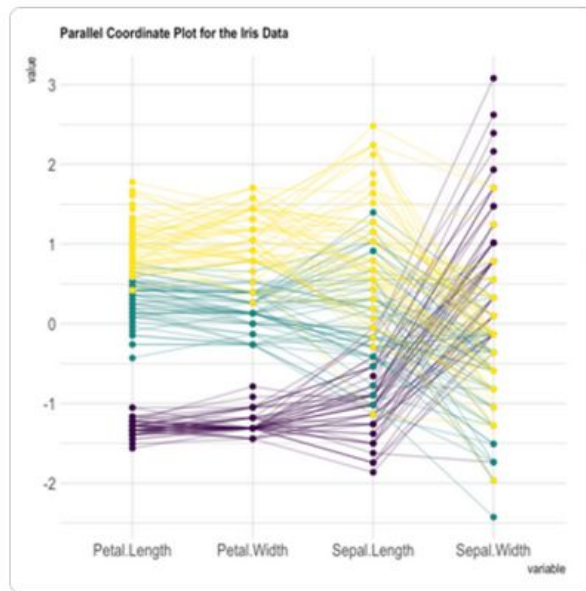
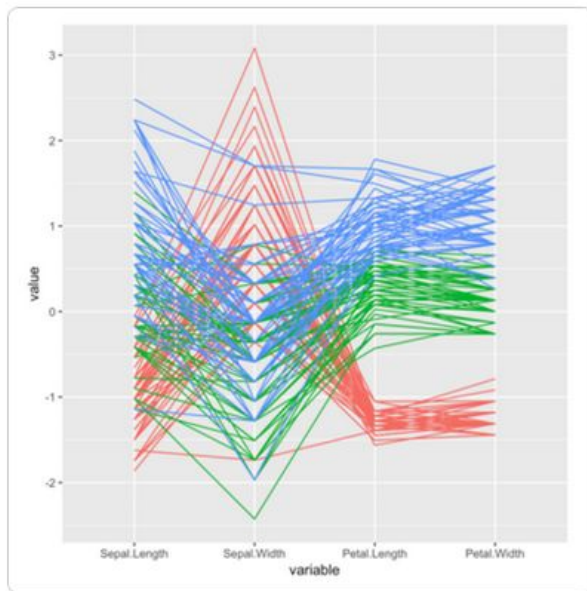




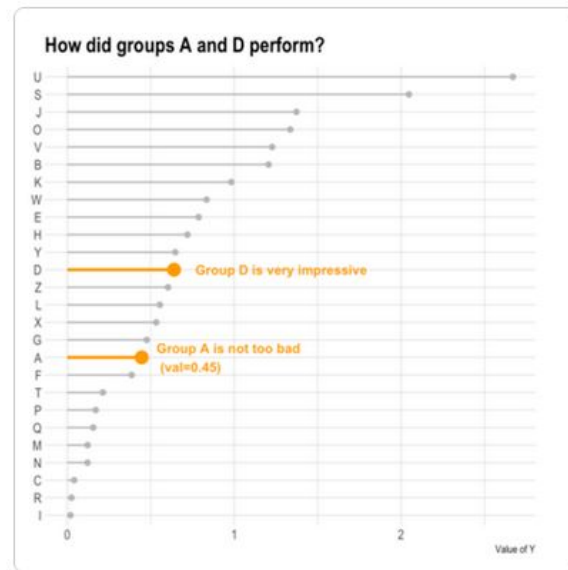
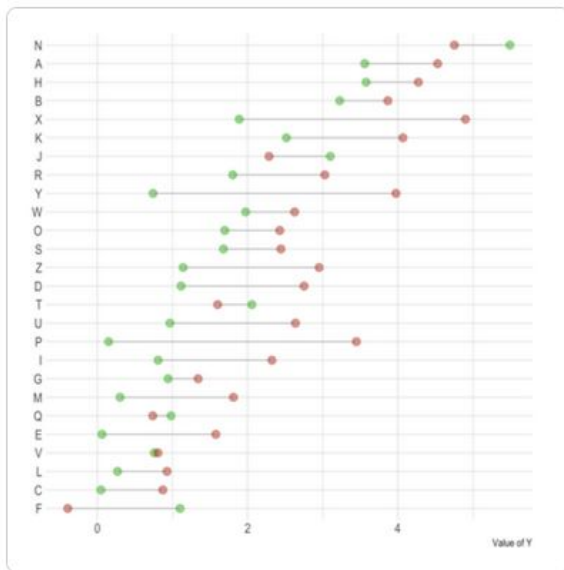
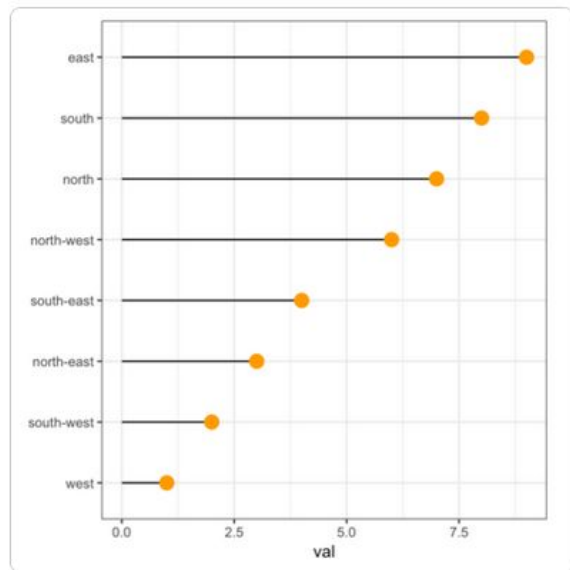
# Wordcloud



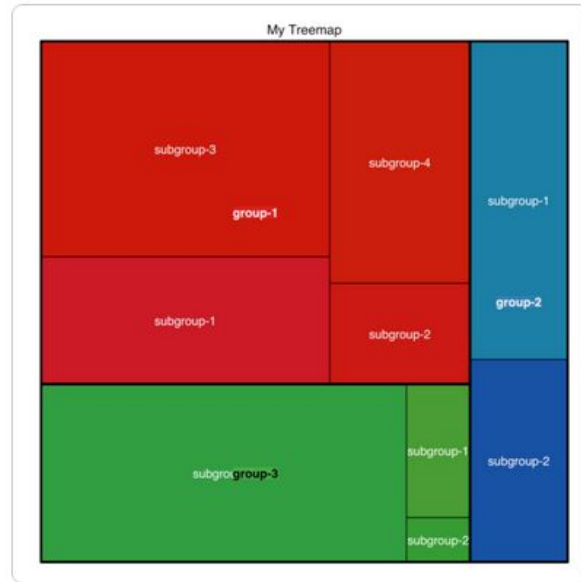
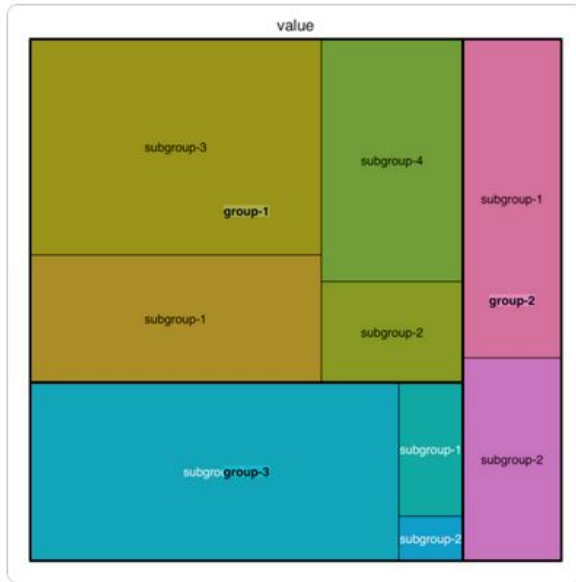
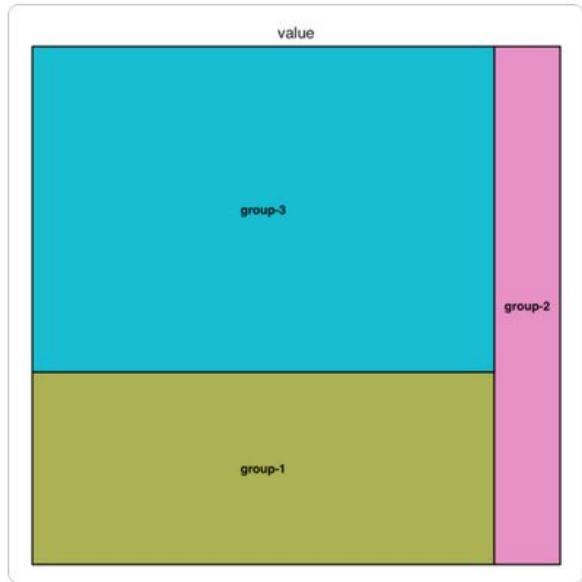
# Parallel Coordinates chart



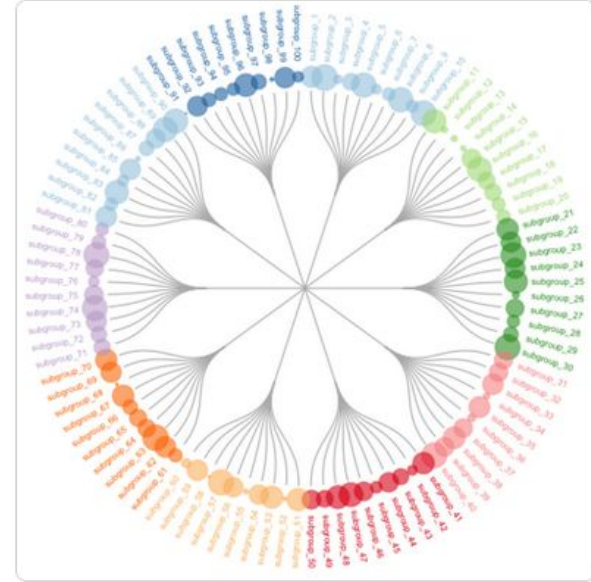
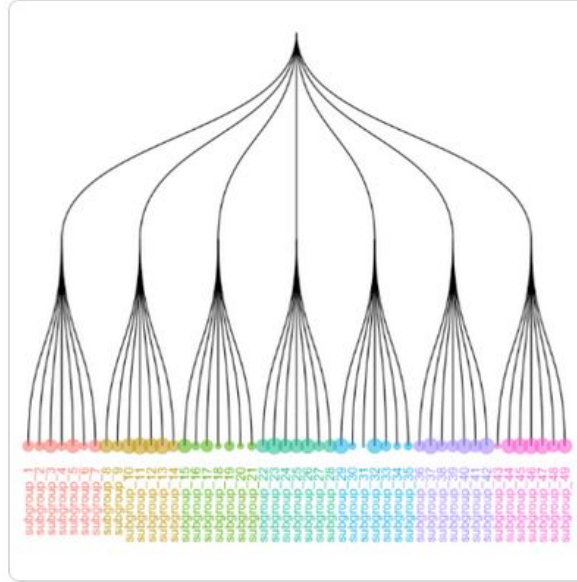
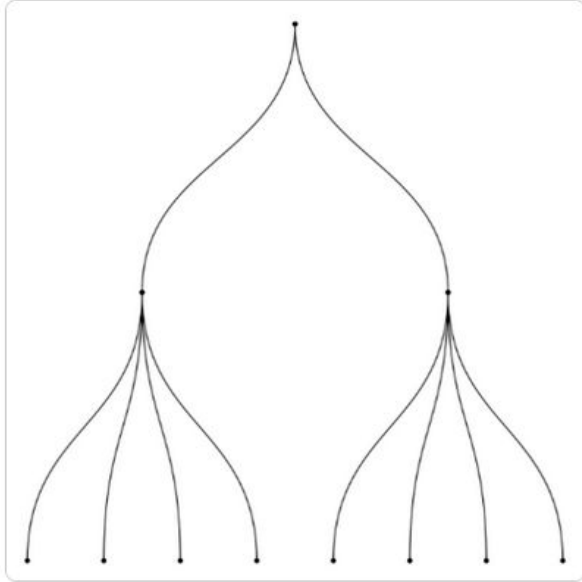
# Lollipop plot



# Treemap plot



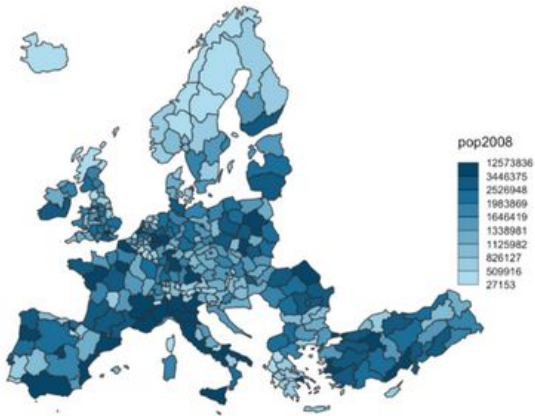
# Dendrogram



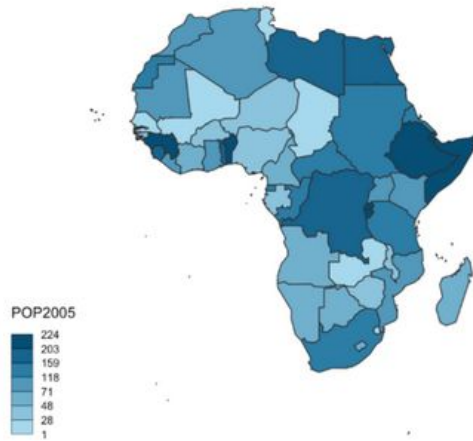


# Choropleth Map

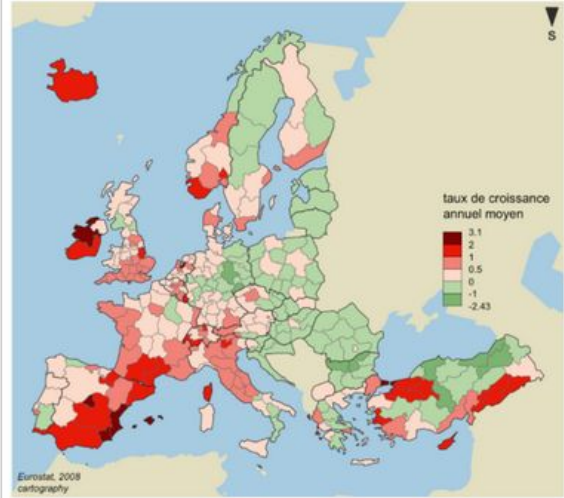
Population in 2008



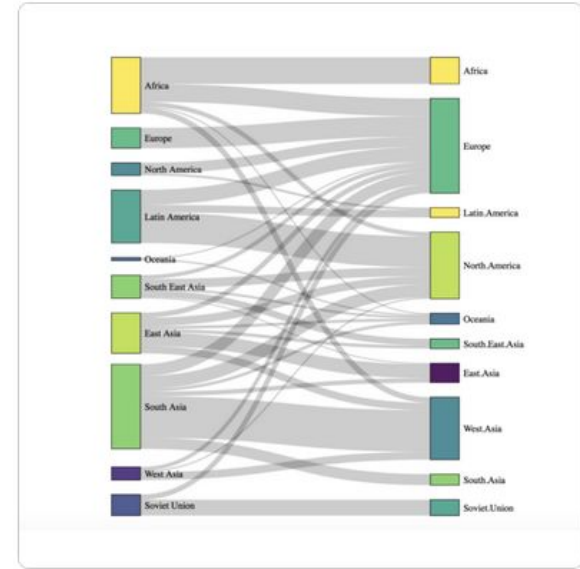
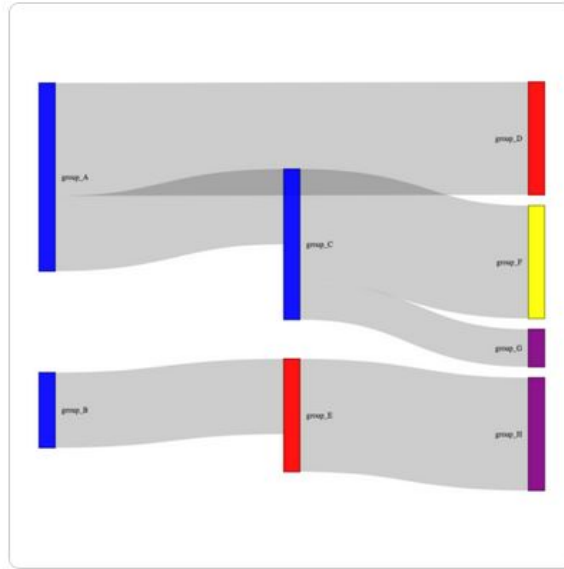
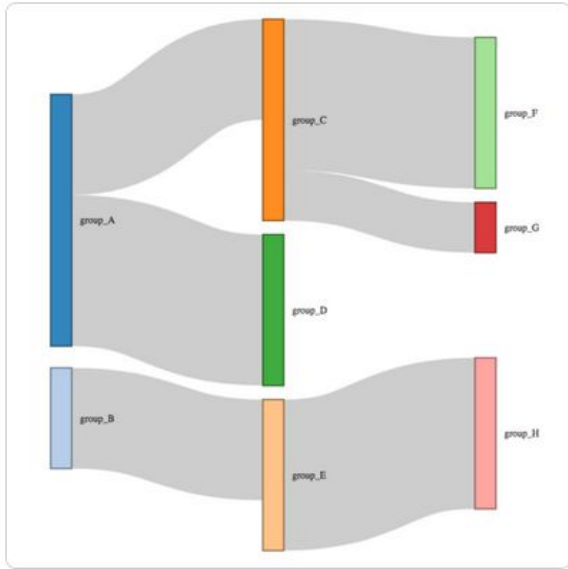
Number of people living in Africa in 2005



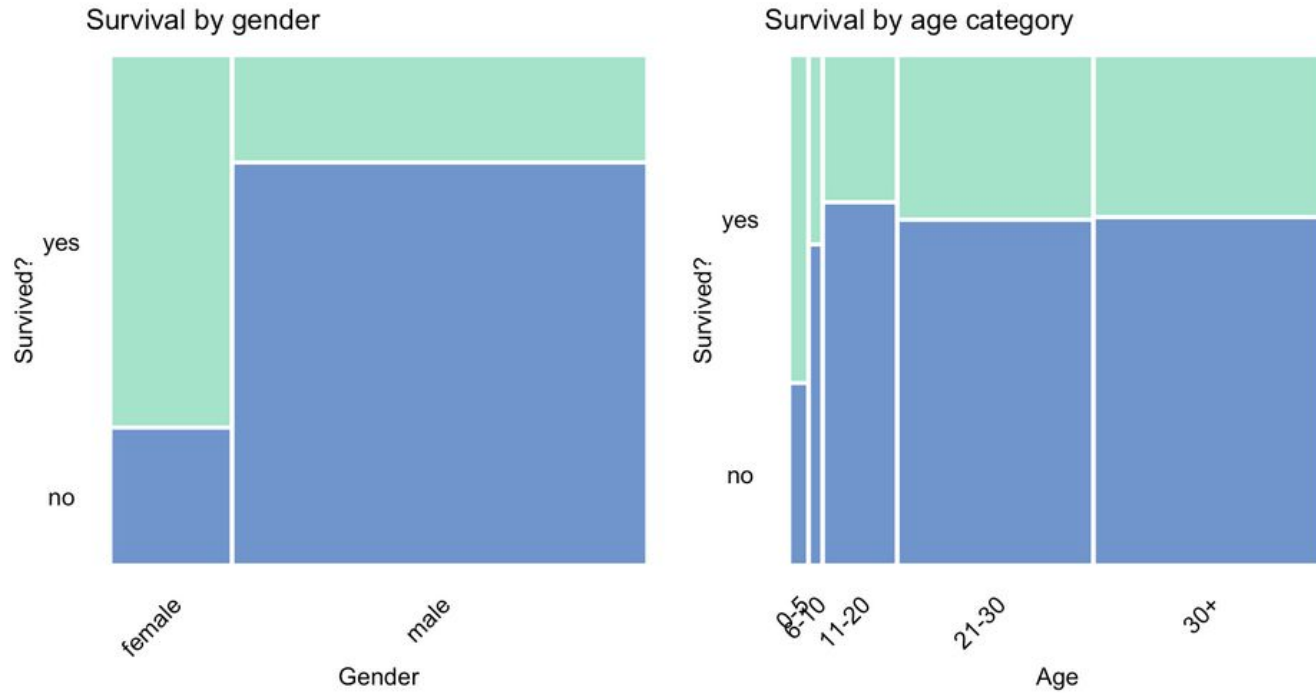
Growth rate in Europe



# Sankey Diagram



# Mosaic plot



## Distribution



Violin

Density

Histogram

Boxplot

Ridgeline

## Correlation



Scatter

Heatmap

Correlogram

Bubble

Connected scatter

Density 2d

## Ranking



Barplot

Spider / Radar

Wordcloud

Parallel

Lollipop

Circular Barplot

## Part of a whole



Grouped and Stacked barplot

Treemap

Doughnut

Pie chart

Dendrogram

Circular packing

## Evolution



Line plot

Area

Stacked area

Streamchart

Time Series

## Map



Map

Choropleth

Hexbin map

Cartogram

Connection

Bubble map

## Flow



Chord diagram

Network

Sankey

Arc diagram

Edge bundling

## General knowledge



Ggplot2

Animation

Interactivity

3D

Caveats

Data art