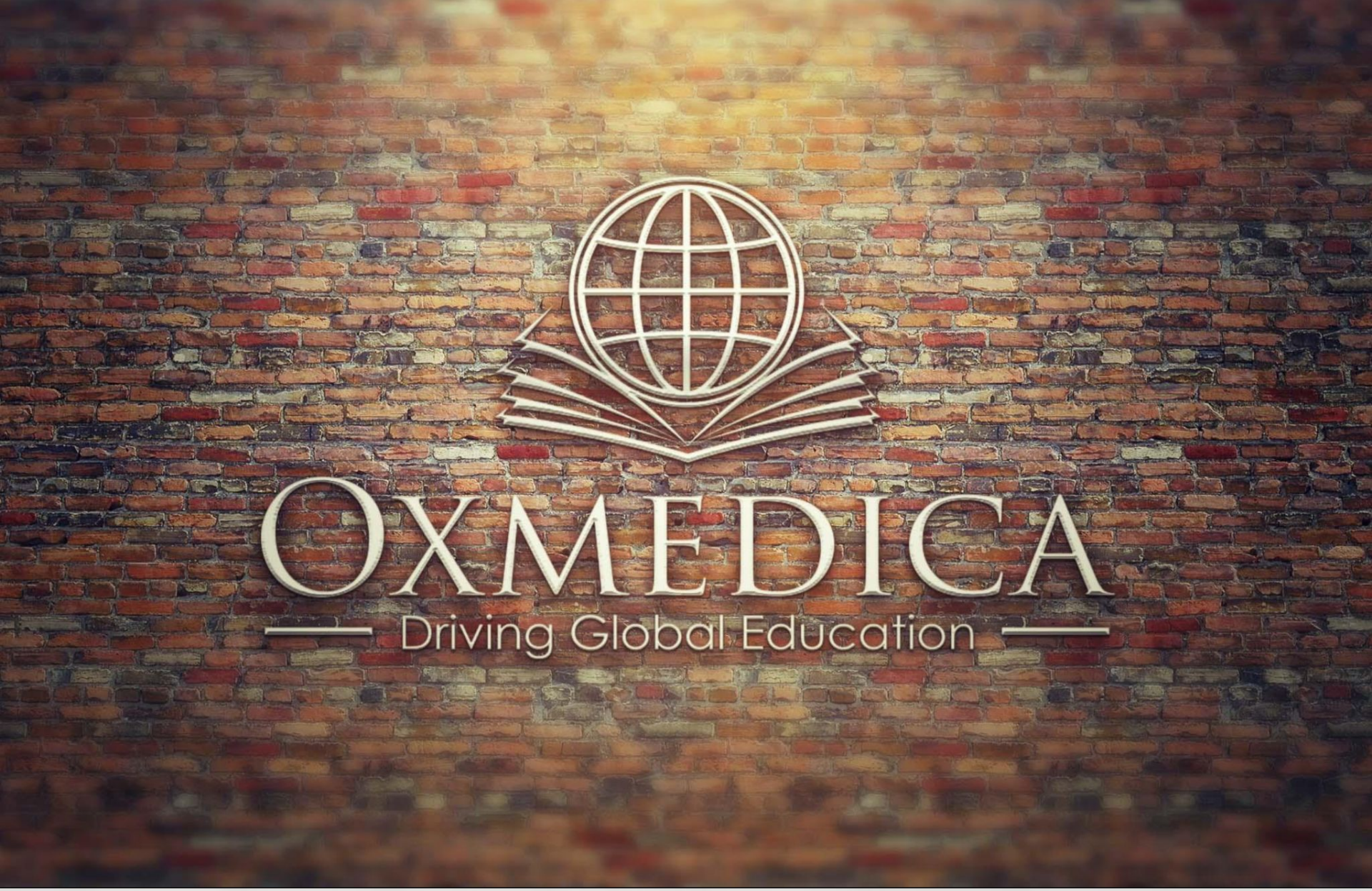
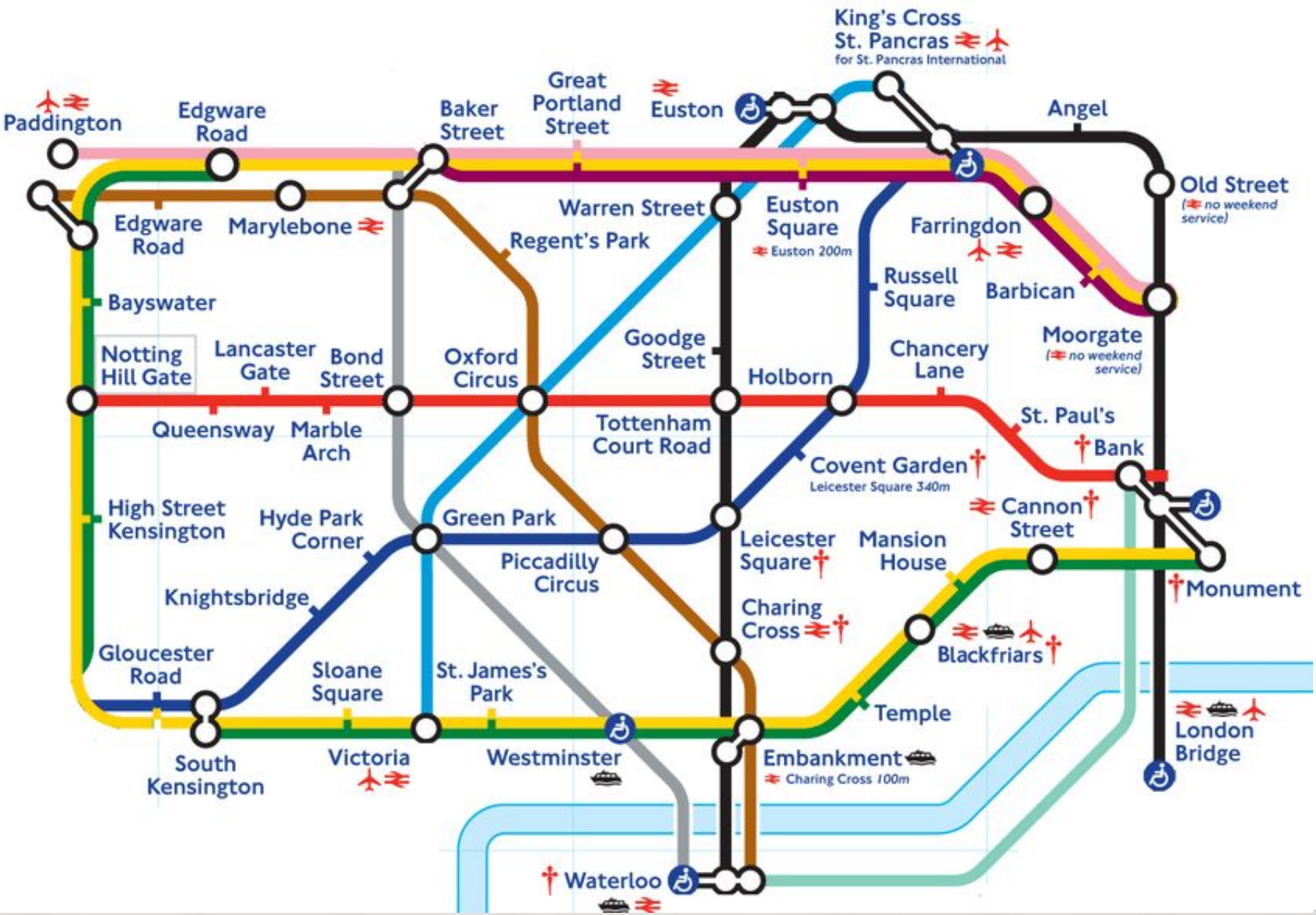


Visualisations

Overview

1. What are visualisations?
2. What makes a good/bad visualisation?
3. Famous examples
4. Challenge…

Source


King's Cross
St. Pancras
for St. Pancras International
Paddington
Edgware Road
Baker Street
Great Portland Street
Euston
Angel
Old Street
(no weekend service)
Edgware Road
Marylebone
Warren Street
Regent's Park
Euston Square
Euston 200m
Farringdon
Russell Square
Barbican
Bayswater
Notting Hill Gate
Lancaster Gate
Bond Street
Oxford Circus
Goodge Street
Holborn
Chancery Lane
Moorgate
(no weekend service)
Queensway
Marble Arch
Tottenham Court Road
St. Paul's
Bank
Covent Garden
Leicester Square 340m
High Street Kensington
Hyde Park Corner
Green Park
Piccadilly Circus
Cannon Street
Leicester Square
Mansion House
Monument
Knightsbridge
Charing Cross
Blackfriars
Gloucester Road
Sloane Square
St. James's Park
Temple
London Bridge
South Kensington
Victoria
Westminster
Embankment
Charing Cross 100m
Waterloo

Source

Visualisations!

Visualisations are the **graphical representation of data**.

Why do them?

1. Simplify complex data.
2. Reveal patterns, trends, and correlations.
3. Aid in decision-making.

What makes a good visualisation?

Discuss

The Principles of Visualisation

1. Simplicity
2. Efficiency
3. Consistency

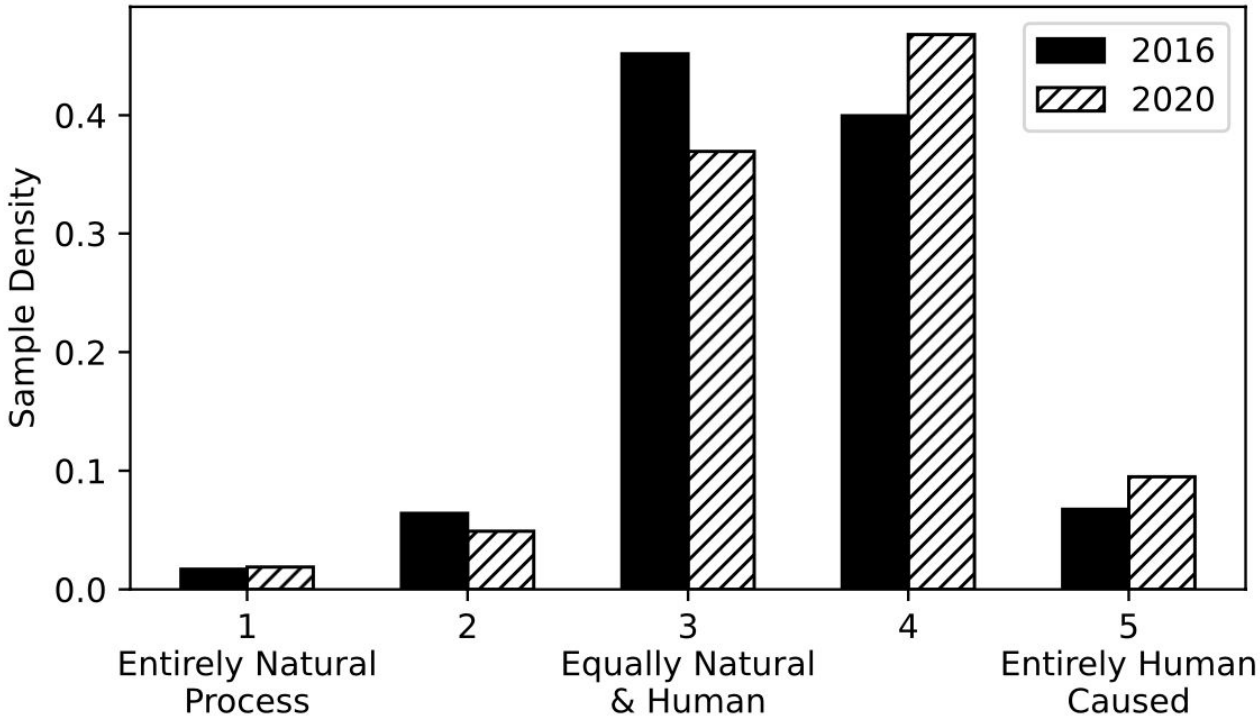
What makes a **BAD** visualisation?

Discuss

My Examples

Good or Bad?

Figure 1: Beliefs About the Causes of Climate Change in 2016 and 2020.



Source

Good or Bad?

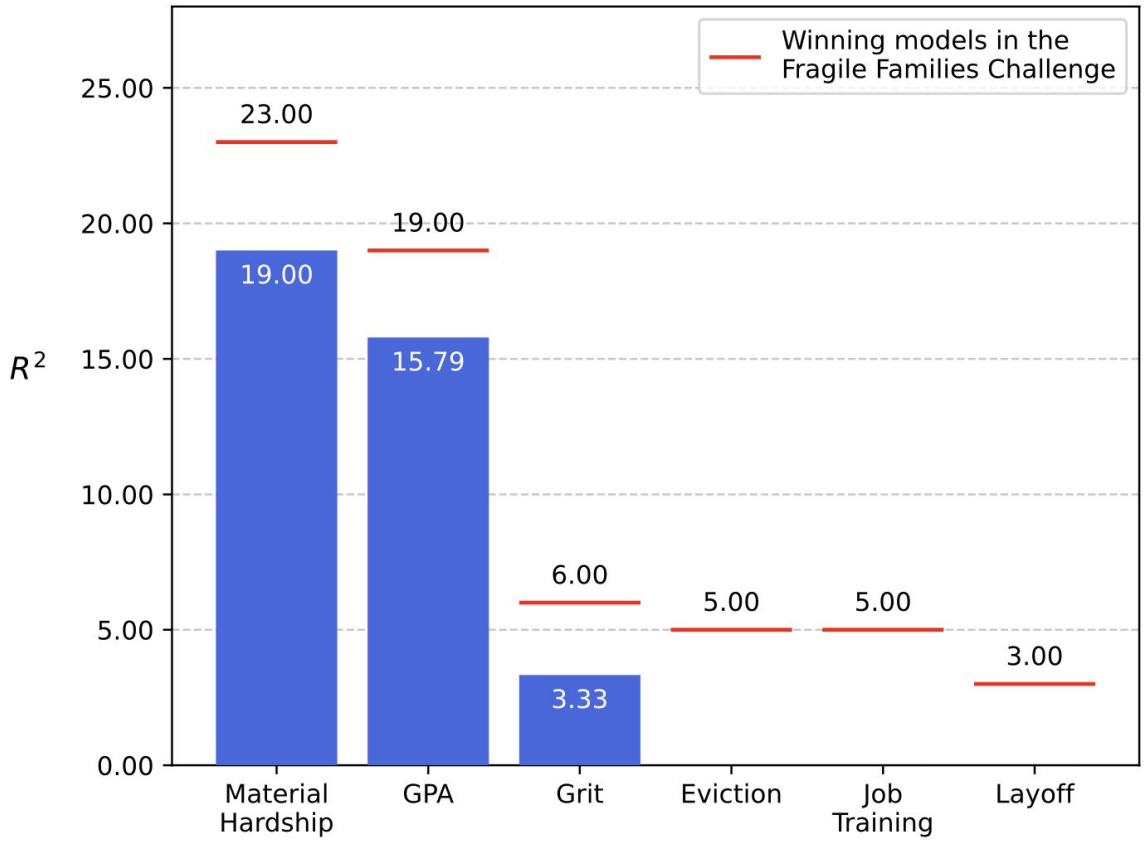


Figure 2: R^2 scores for the best models with scores from the winning models in the original challenge shown in red. Scores for eviction, job training and layoff did not beat the mean baseline and are not shown.

Source

Good or Bad?

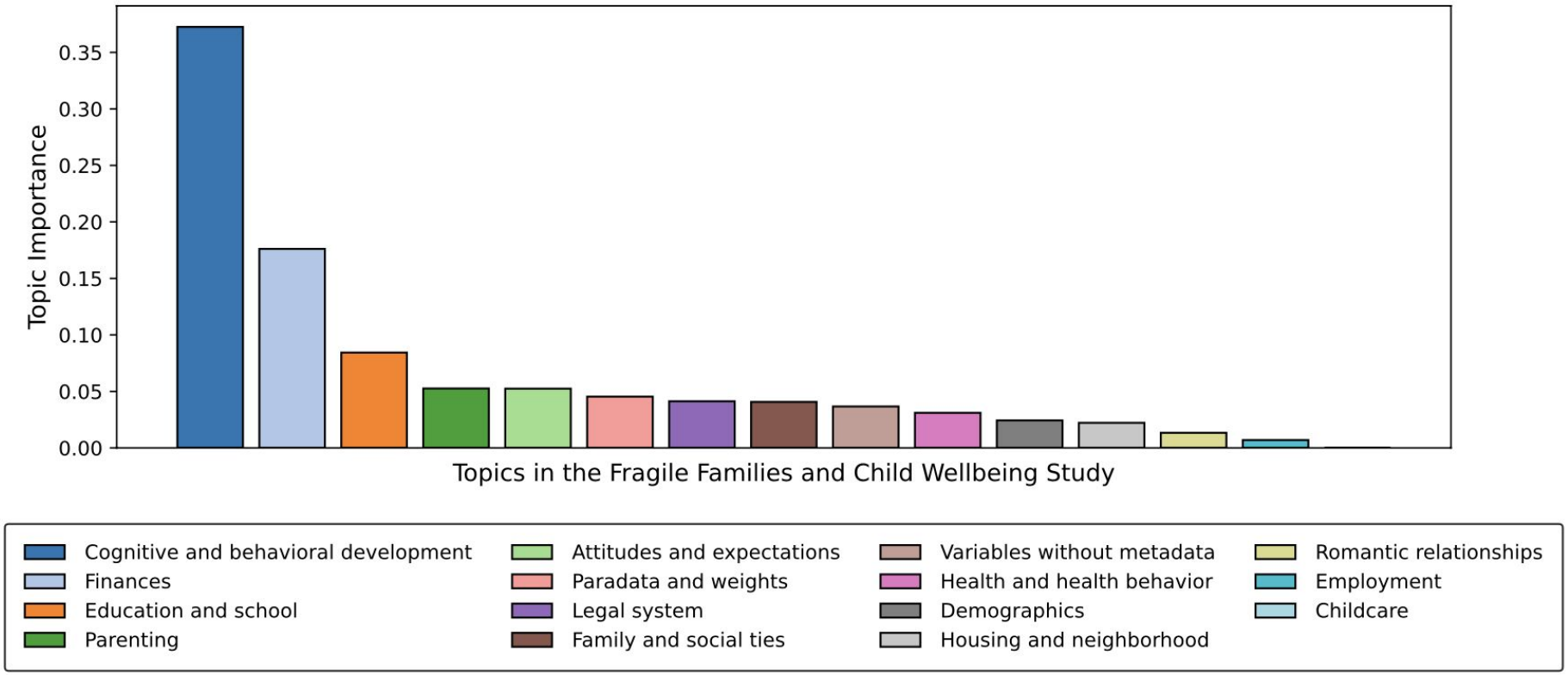


Figure 3: Topic importance for predicting GPA in children aged 15. The topics aggregate features in the Fragile Families and Child Wellbeing Study. Topic importance is a metric combining feature importance from LASSO and GBM.

Source

Good or Bad?

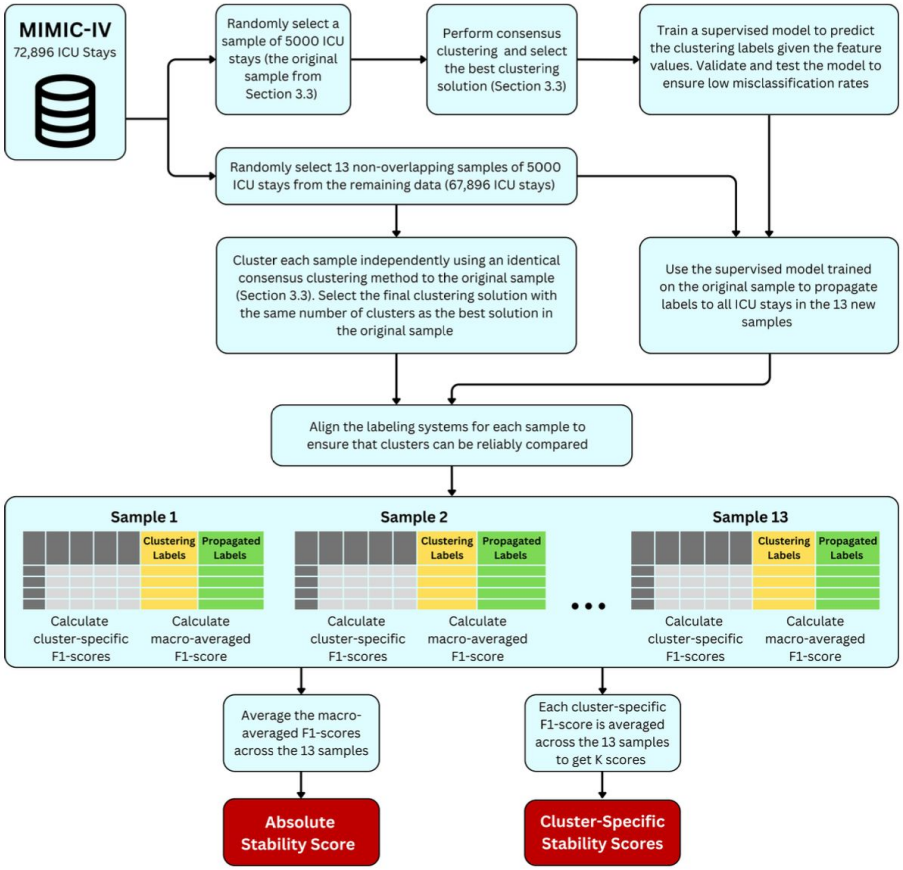
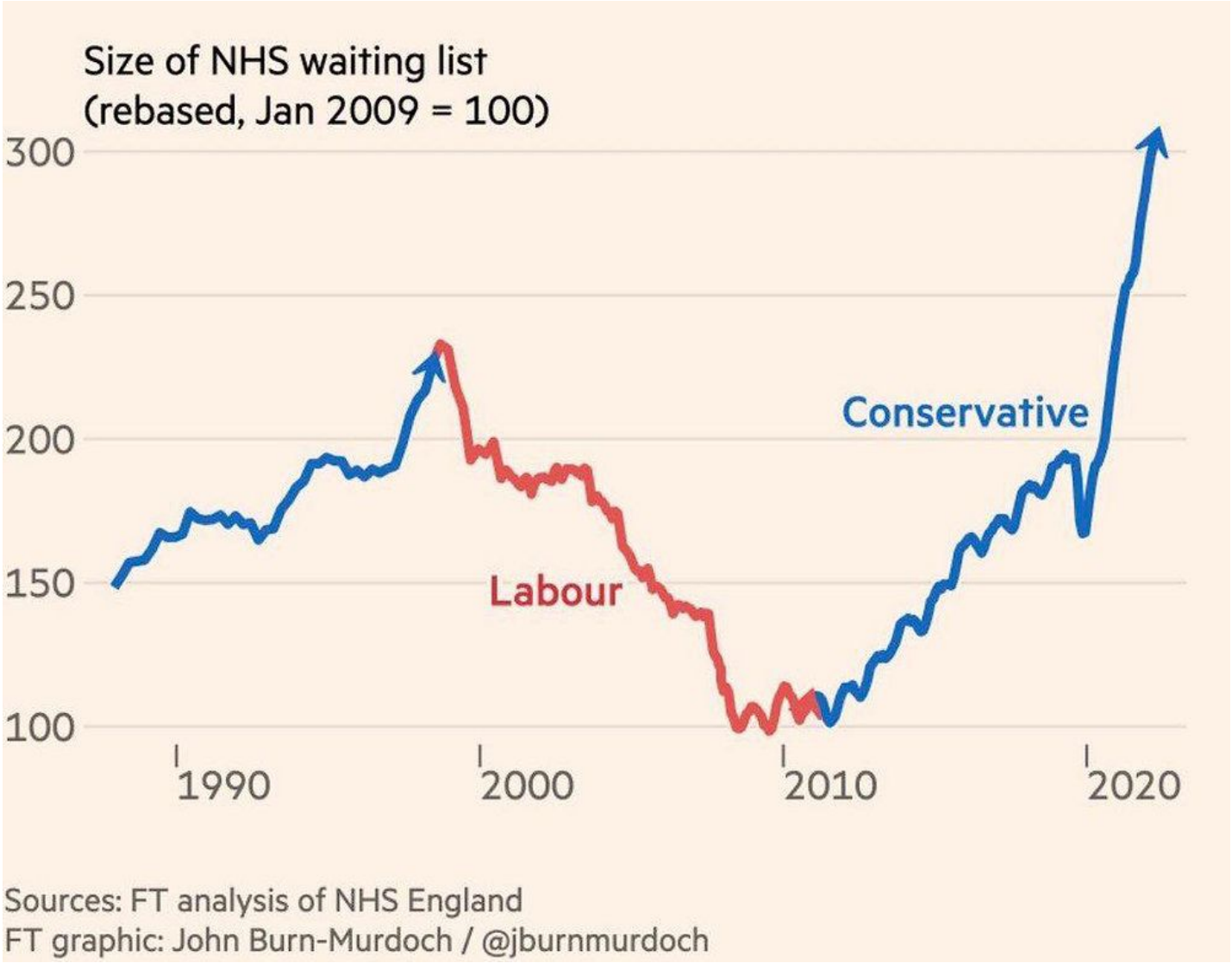


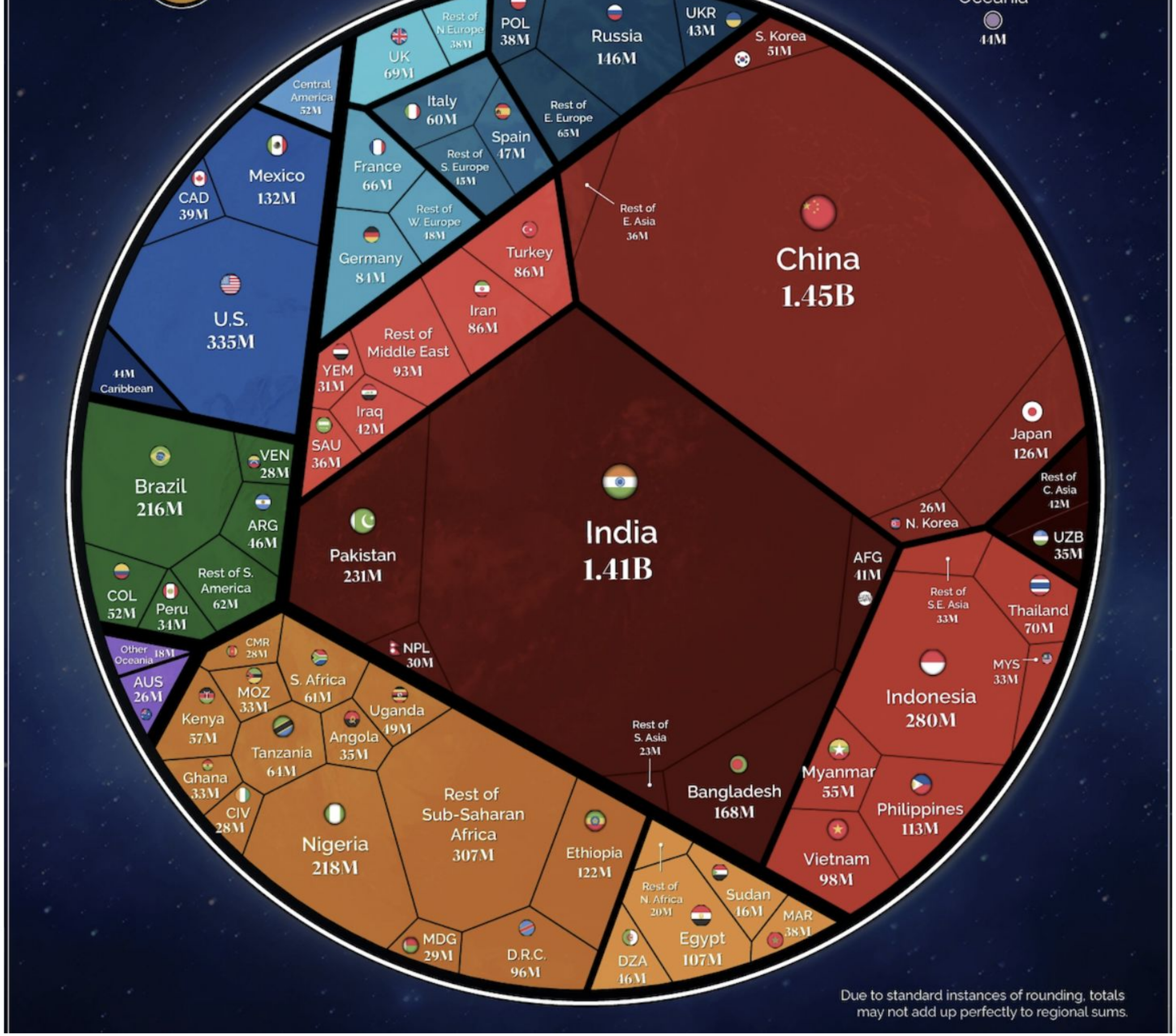
Figure 3.5: Schematic Diagram of the Stability Analysis Method. This method generates two stability metrics which are highlighted in red: The absolute stability score, which is the average macro-averaged F1-score across the 13 samples, and the cluster-specific stability scores, which are cluster-specific F1-scores averaged over the 13 samples.

Source

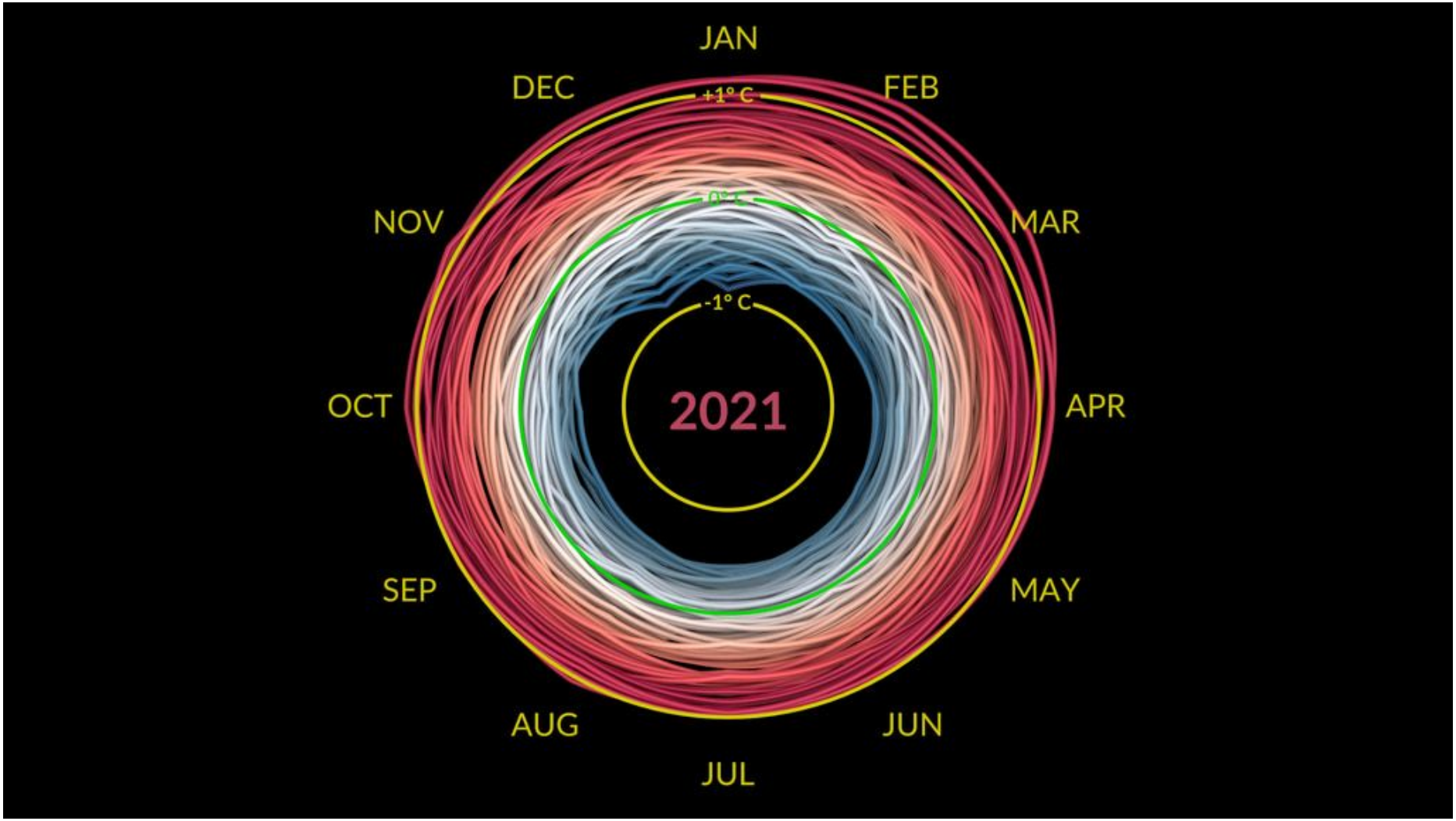
Some of my favourites…


Size of NHS waiting list
(rebased, Jan 2009 = 100)
300
250
200
150
100
1990
2000
2010
2020
Conservative
Labour
Sources: FT analysis of NHS England
FT graphic: John Burn-Murdoch / @jburnmurdoch

Source

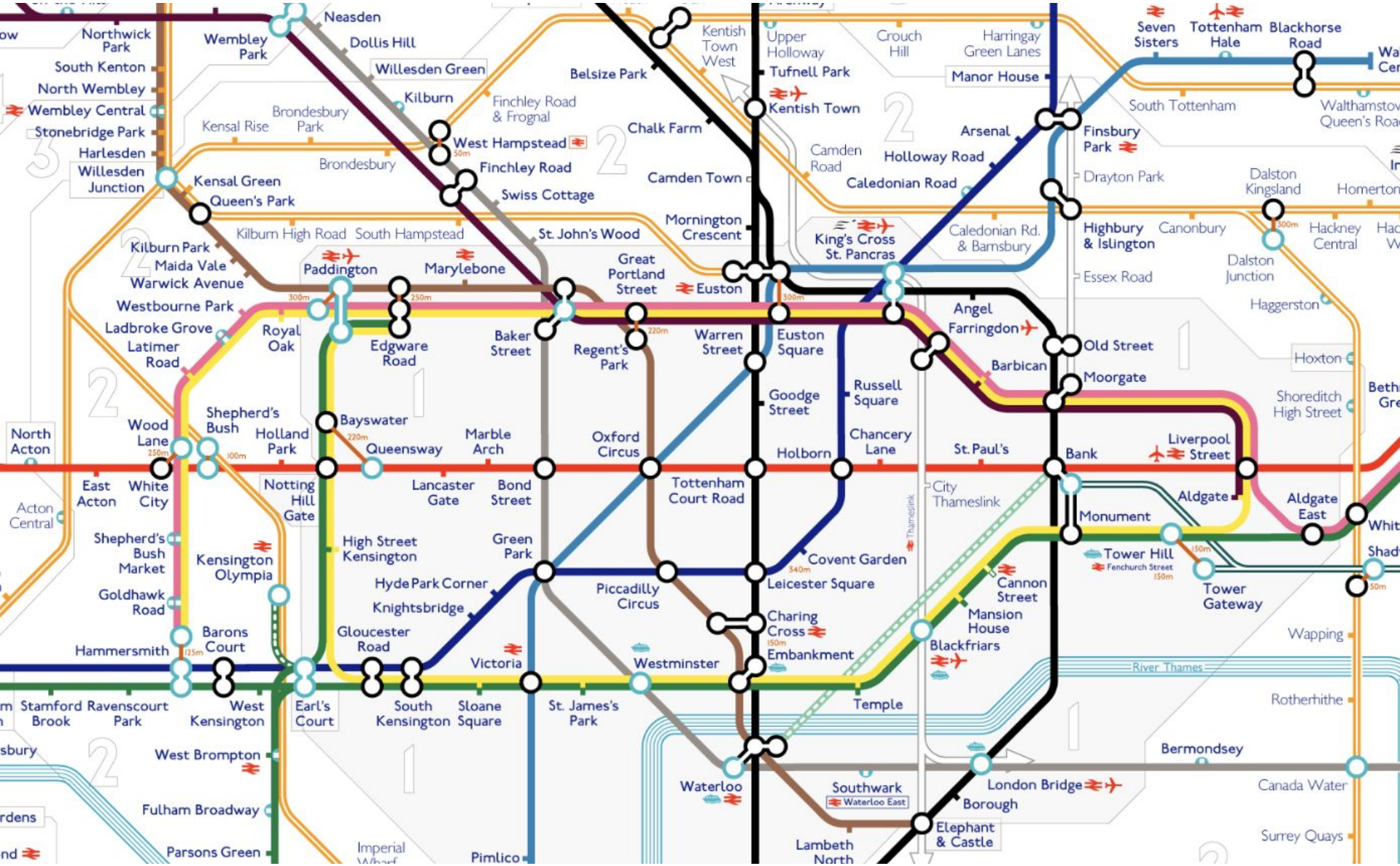

UK 69M
Rest of N. Europe 38M
POL 38M
Russia 146M
UKR 43M
S. Korea 51M
44M
Central America 52M
Italy 60M
Spain 47M
Rest of E. Europe 65M
Mexico 132M
CAD 39M
France 66M
Rest of S. Europe 15M
Rest of W. Europe 18M
Germany 84M
Turkey 86M
Rest of E. Asia 36M
China 1.45B
U.S. 335M
Iran 86M
Rest of Middle East 93M
44M Caribbean
YEM 31M
Iraq 42M
SAU 36M
Japan 126M
Brazil 216M
VEN 28M
ARG 46M
India 1.41B
Pakistan 231M
Rest of C. Asia 42M
26M N. Korea
UZB 35M
AFG 41M
COL 52M
Peru 34M
Rest of S. America 62M
Rest of S.E. Asia 33M
Thailand 70M
Other Oceania 18M
AUS 26M
CMR 28M
MOZ 33M
S. Africa 61M
NPL 30M
Uganda 49M
Kenya 57M
Angola 35M
Tanzania 64M
Ghana 33M
CIV 28M
Nigeria 218M
Rest of Sub-Saharan Africa 307M
Ethiopia 122M
Rest of S. Asia 23M
Bangladesh 168M
Indonesia 280M
MYS 33M
Myanmar 55M
Philippines 113M
Vietnam 98M
Rest of N. Africa 20M
Sudan 46M
MAR 38M
Egypt 107M
DZA 46M
MDG 29M
D.R.C. 96M
Due to standard instances of rounding, totals may not add up perfectly to regional sums.

Source



https://svs.gsfc.nasa.gov/4975/

Source



Source

Exercise

Task in pairs/threes:

For the remainder of today:

1. Find an example of an excellent visualisation and why you thought it was good

2. Find an example of a terrible (and real) visualisation and why it is bad

→ Submit links to your best and worst visualisation through the form on my website (see here Contact). Include your group members names!

→ The class will decide the true best (5 points each) and true worst (5 points each)!