Data Visualization

EXAMPLES (2)

Good visualization design is

1. Trustworthy

2. Accessible

3. Elegant

Accessibility
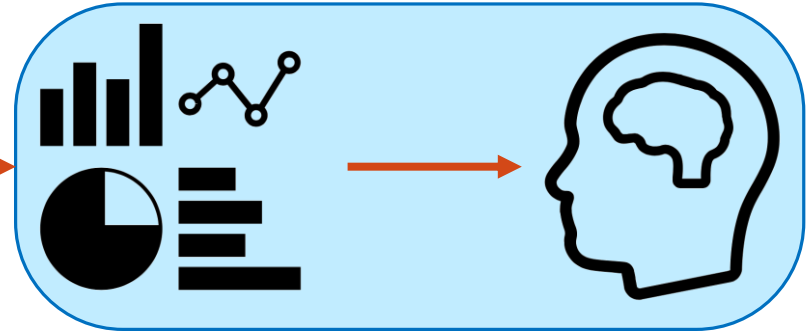
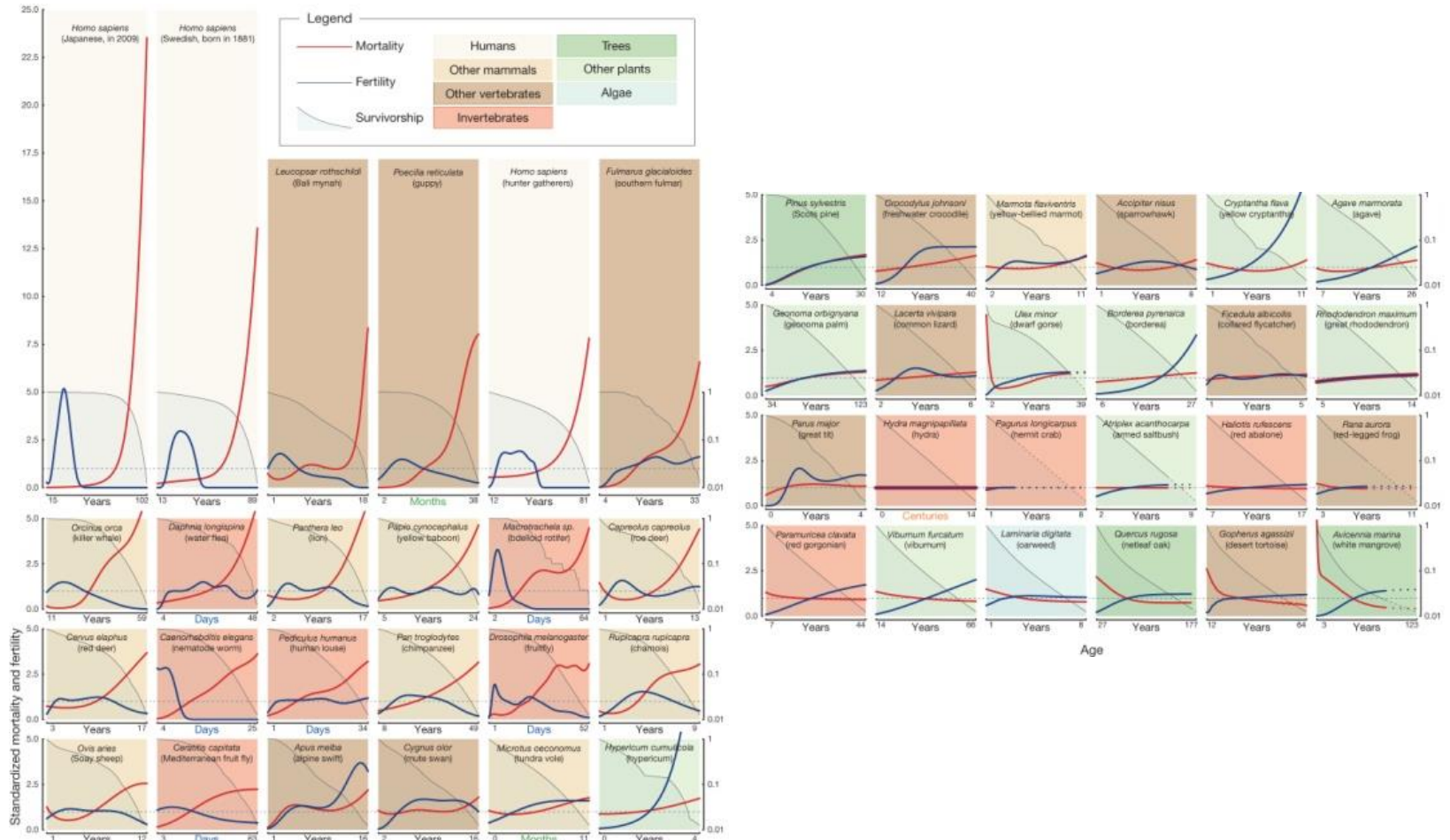Phenomenon   Data   Chart   Person

Make design choices that
facilitate understanding

Diversity of ageing

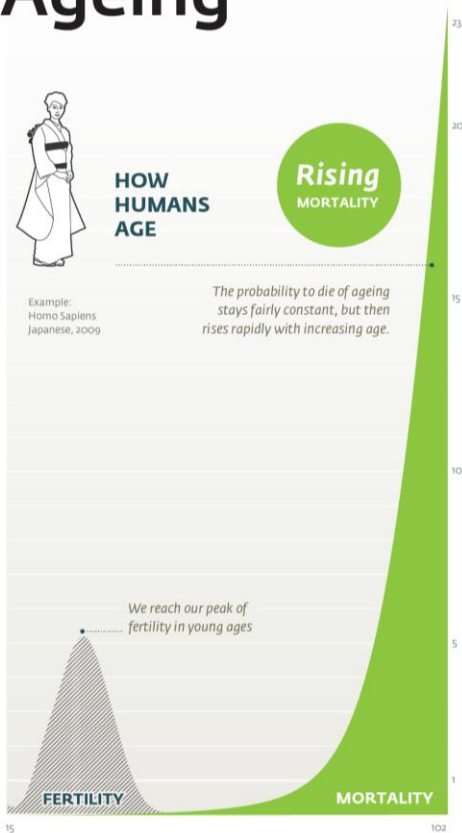# Diversity of ageing (redesign)

Surprising variety in
Ageing

HOW HUMANS AGE

Rising MORTALITY

Example: Homo Sapiens Japanese, 2009

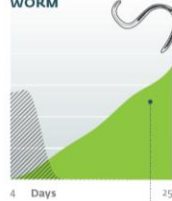The probability to die of ageing stays fairly constant, but then rises rapidly with increasing age.

We reach our peak of fertility in young ages

FERTILITY — MORTALITY

KILLER WHALE

Many animals show an ageing pattern similar to humans.

NEMA-TODE WORM

YELLOW BABOON
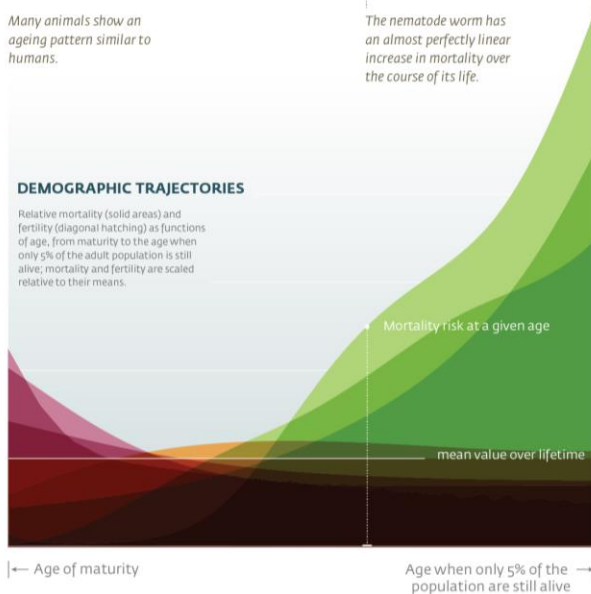
The nematode worm has an almost perfectly linear increase in mortality over the course of its life.
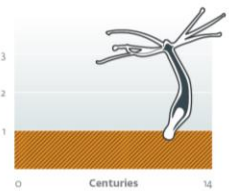
DEMOGRAPHIC TRAJECTORIES

Relative mortality (solid areas) and fertility (diagonal hatching) as functions of age, from maturity to the age when only 5% of the adult population is still alive; mortality and fertility are scaled relative to their means.
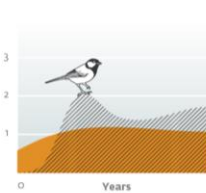
Mortality risk at a given age

mean value over lifetime

|← Age of maturity

Age when only 5% of the → | population are still alive

Constant MORTALITY

GREAT TIT

For some animals, however, mortality risk does not change with age.

HYDRA

The hydra can live for centuries, fresh (and as fertile) as on day one.
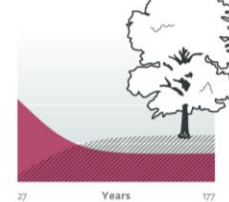
Declining MORTALITY

Some plants and animals are even less likely to die, the older they get!
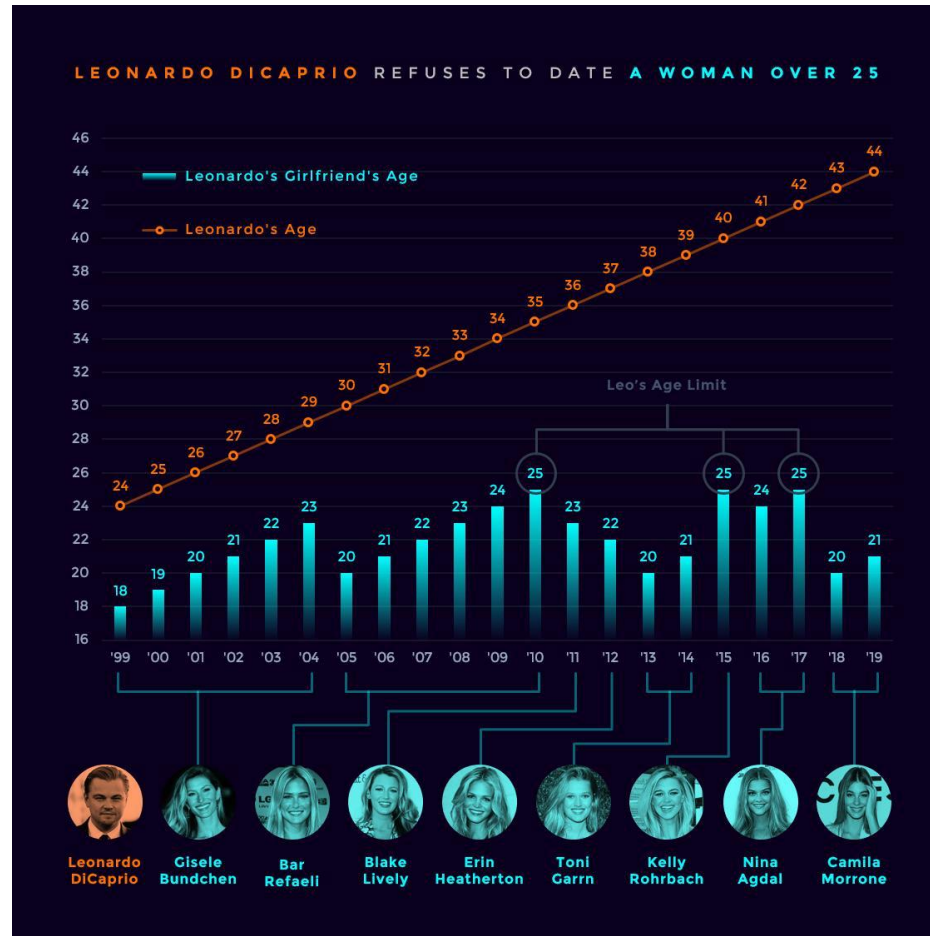
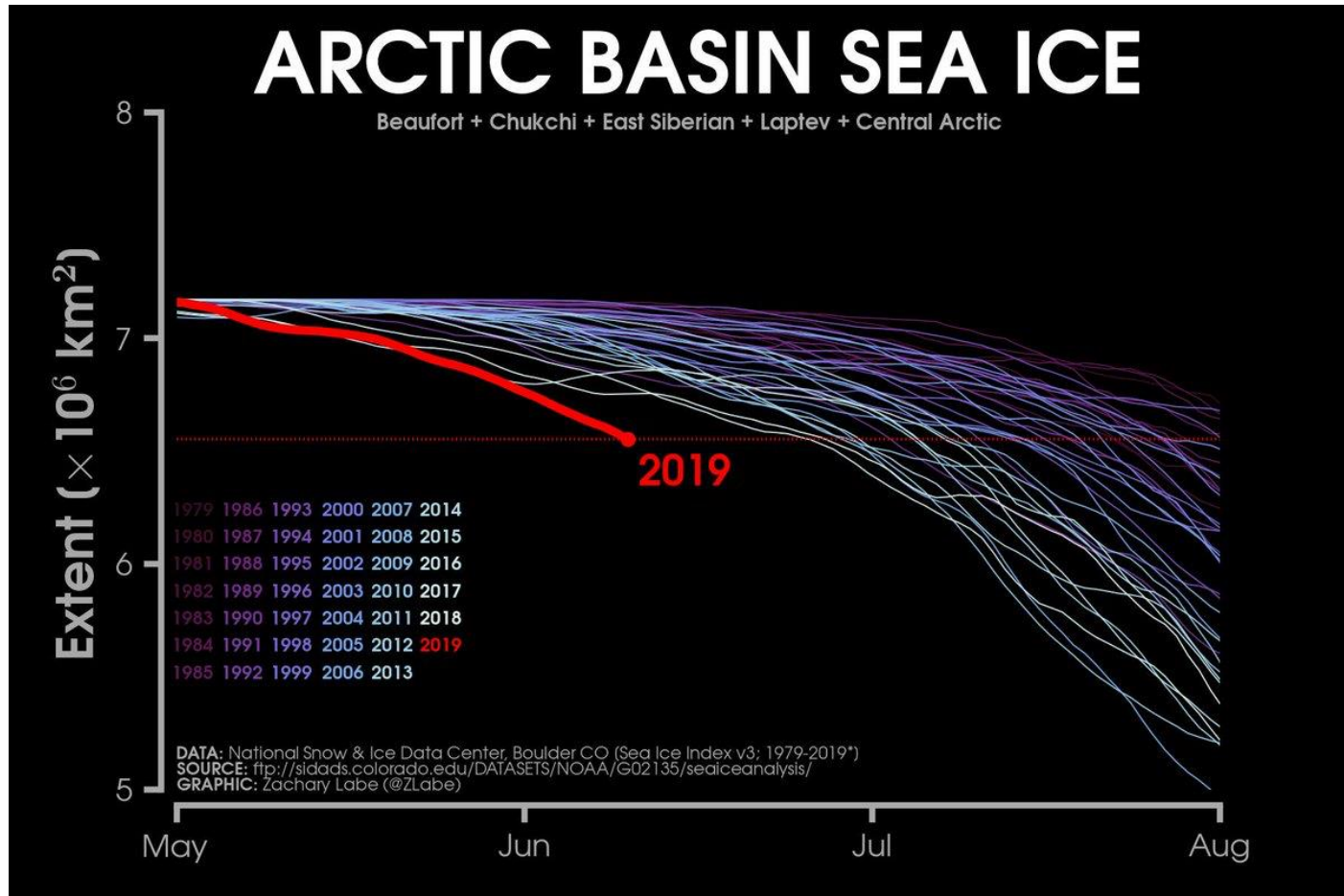**DESERT TORTOISE**
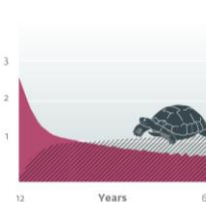
NETLEAF OAK
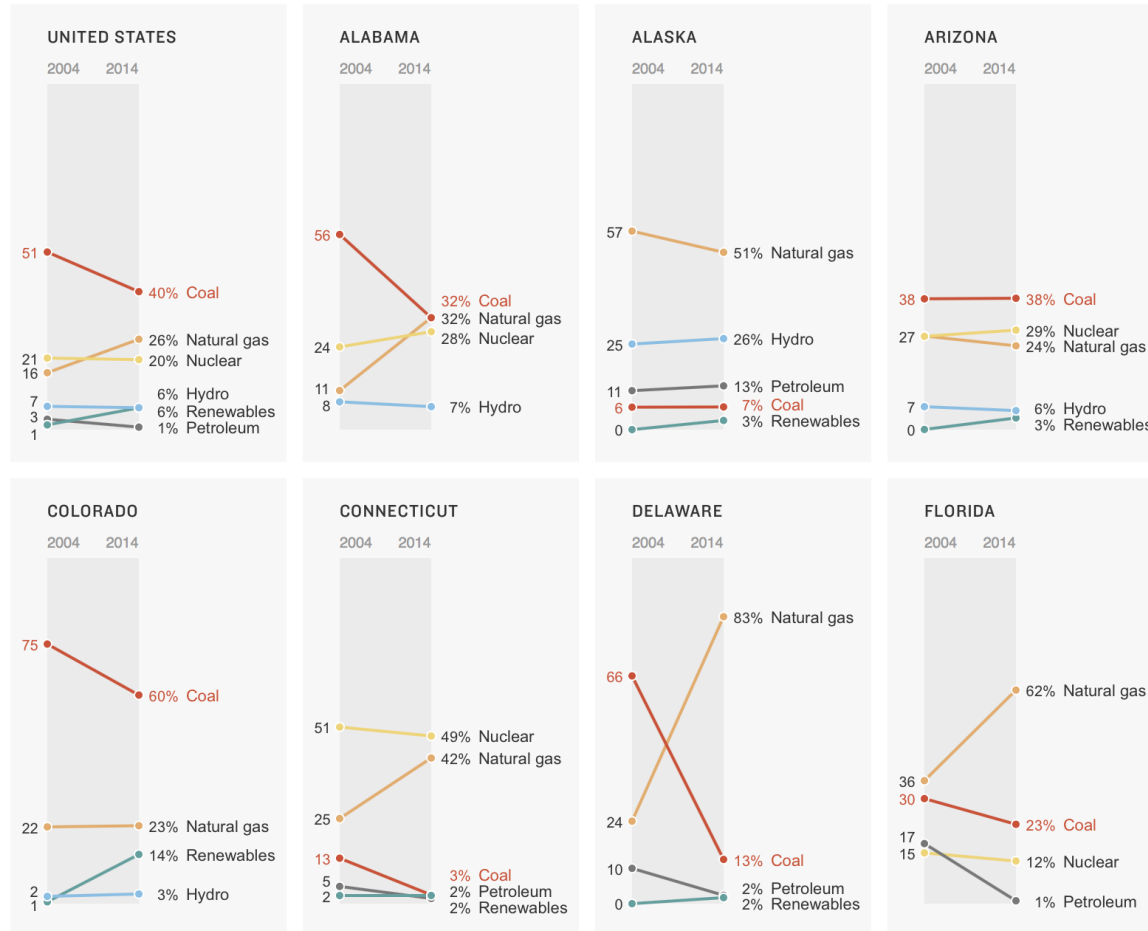
Leonardo DiCaprio's girlfriends

Made in MS Excel!

Extent of sea ice

Electric power generation

Slope graph
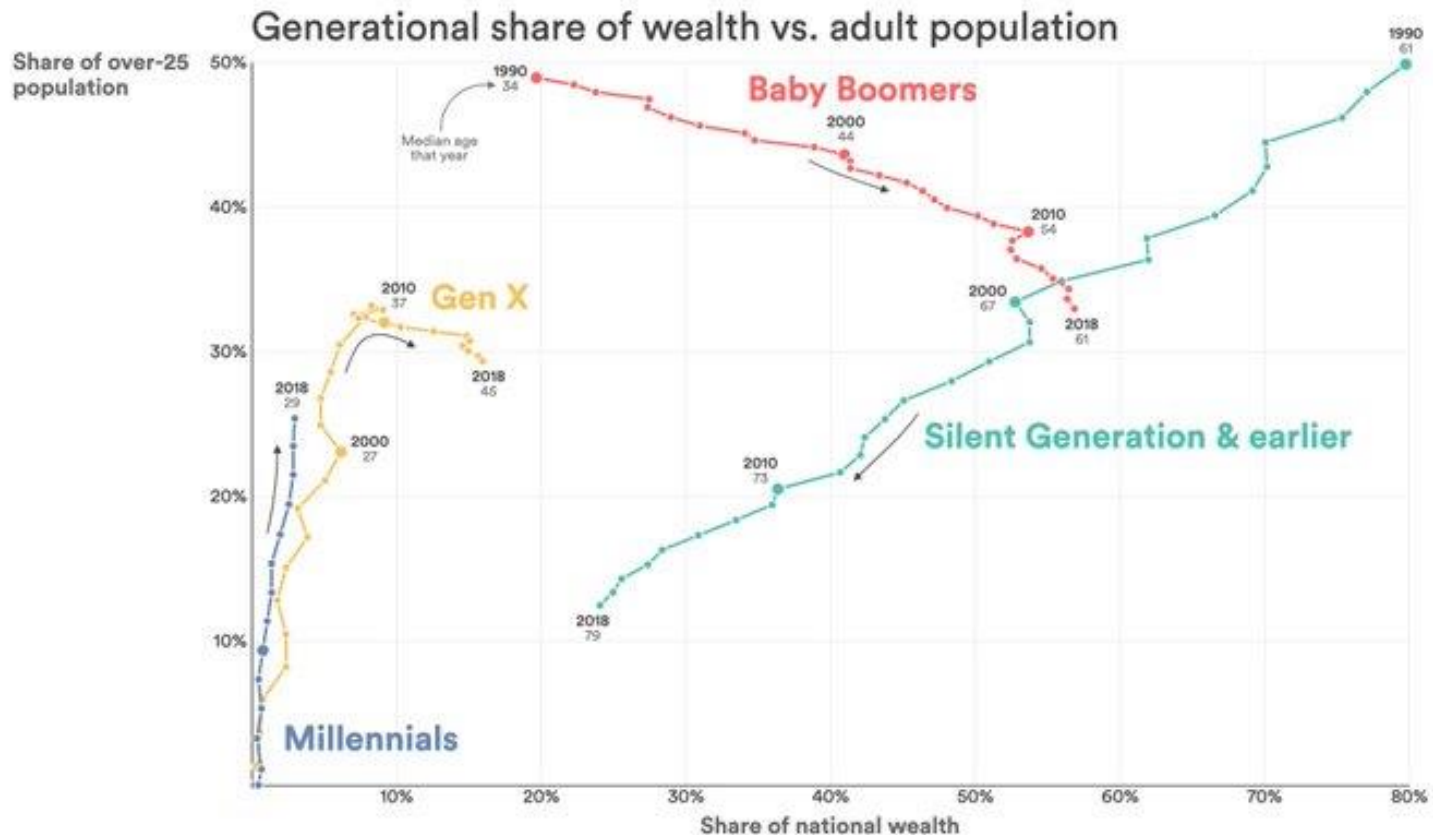
8

Generational share of wealth vs. adult population

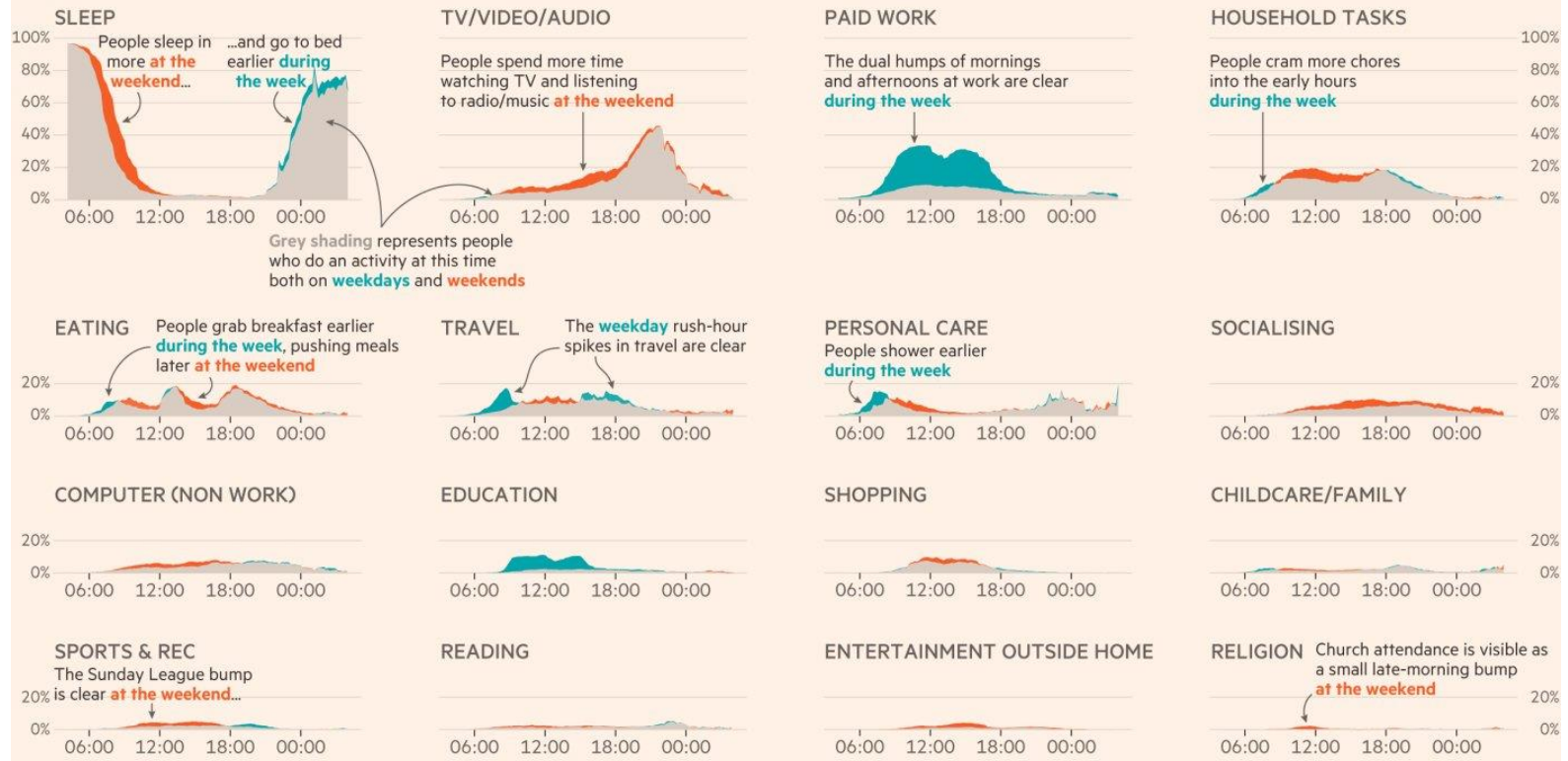

Generational share of wealth vs. adult population

Impact of transport strike on use of bikes
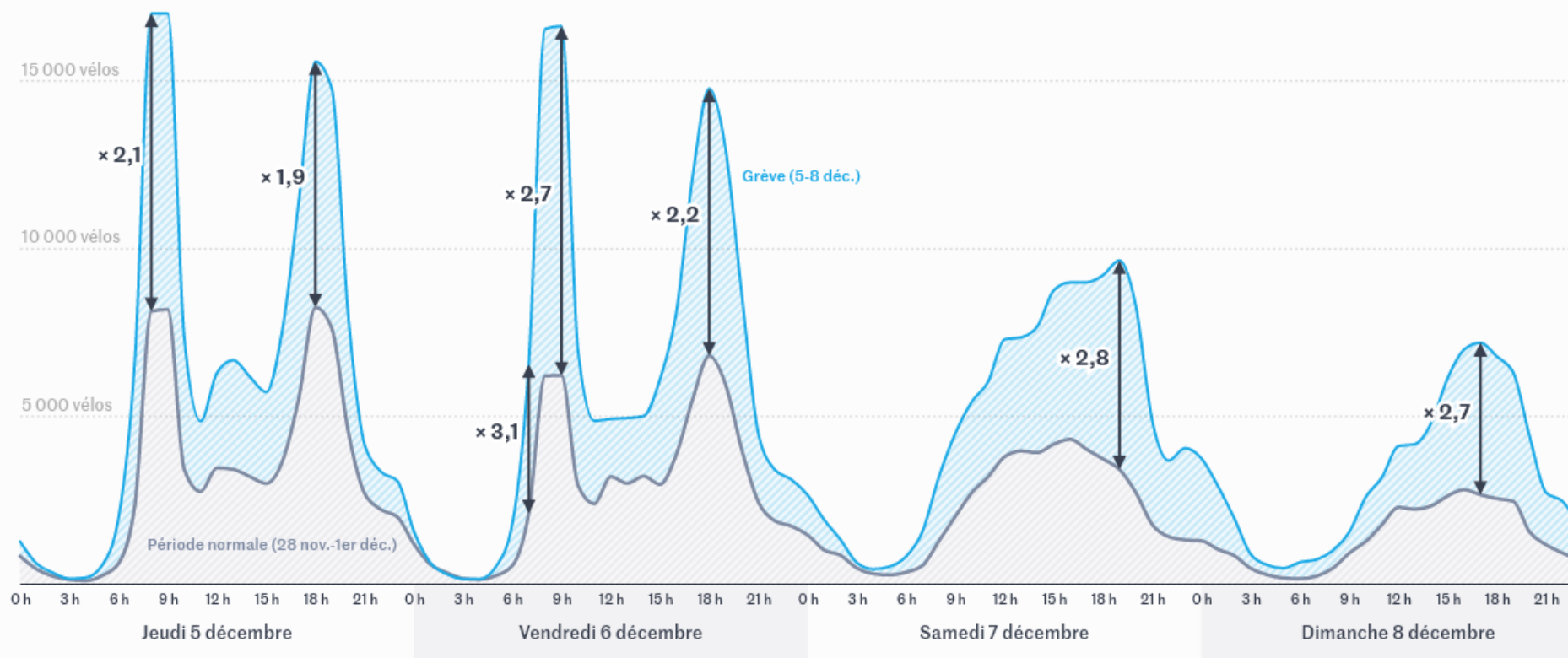
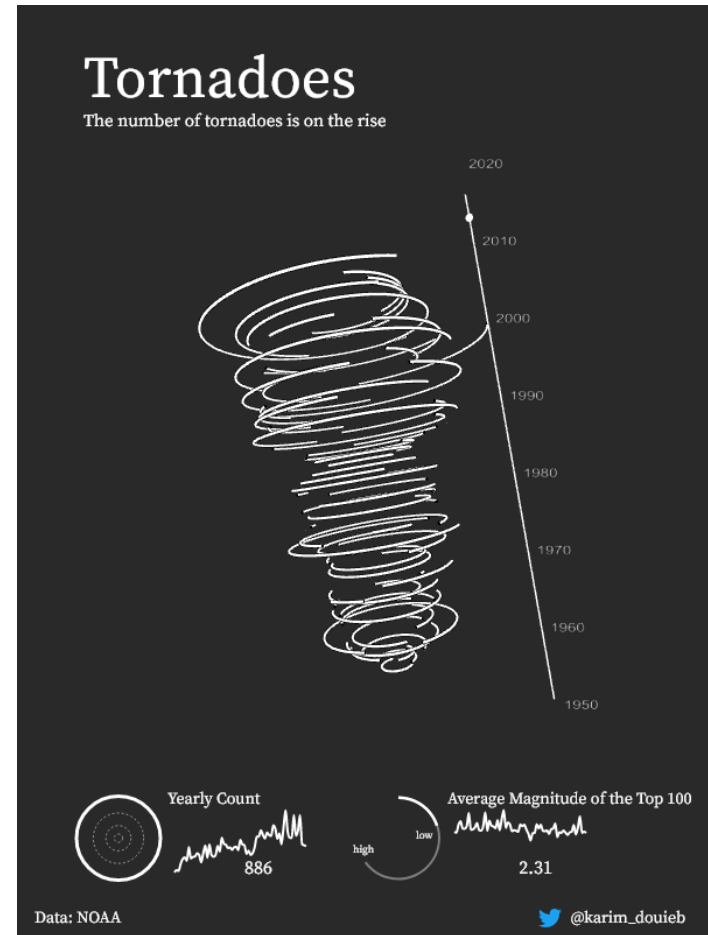# How Britons spend their time at weekends vs weekdays
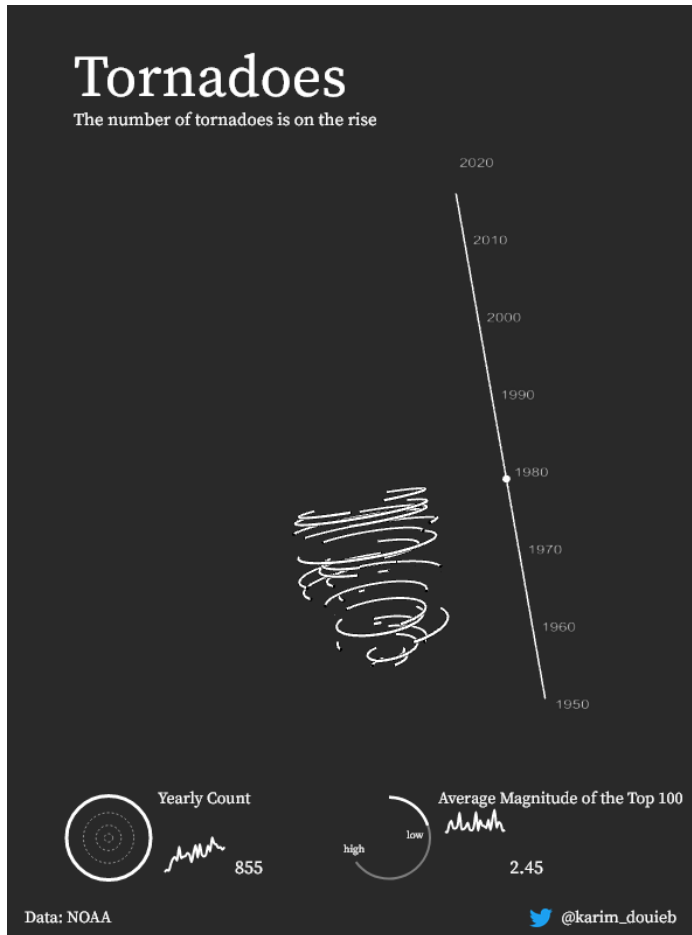

How Britons spend their time at weekends vs weekdays

Share of people doing specific activities during **weekends** vs **weekdays**, by time of day (%)

Source: FT analysis of UK Time Use Survey 2015
© FT

Tornadoes

To achieve accessibility

General guidelines
- Keep in mind
  - The audience
  - The presentation format
  - The specifics of the data
  - The message
- Strive for clarity, minimize clutter
- Take into account human visual processing abilities
  - Careful choice of colors
  - Use annotation
- Use uncommon charts only if they are "worth it"

To achieve accessibility

Design process guidelines
- o Try different visualizations
- o Show your visualizations to a friend—are they able to get to the message?