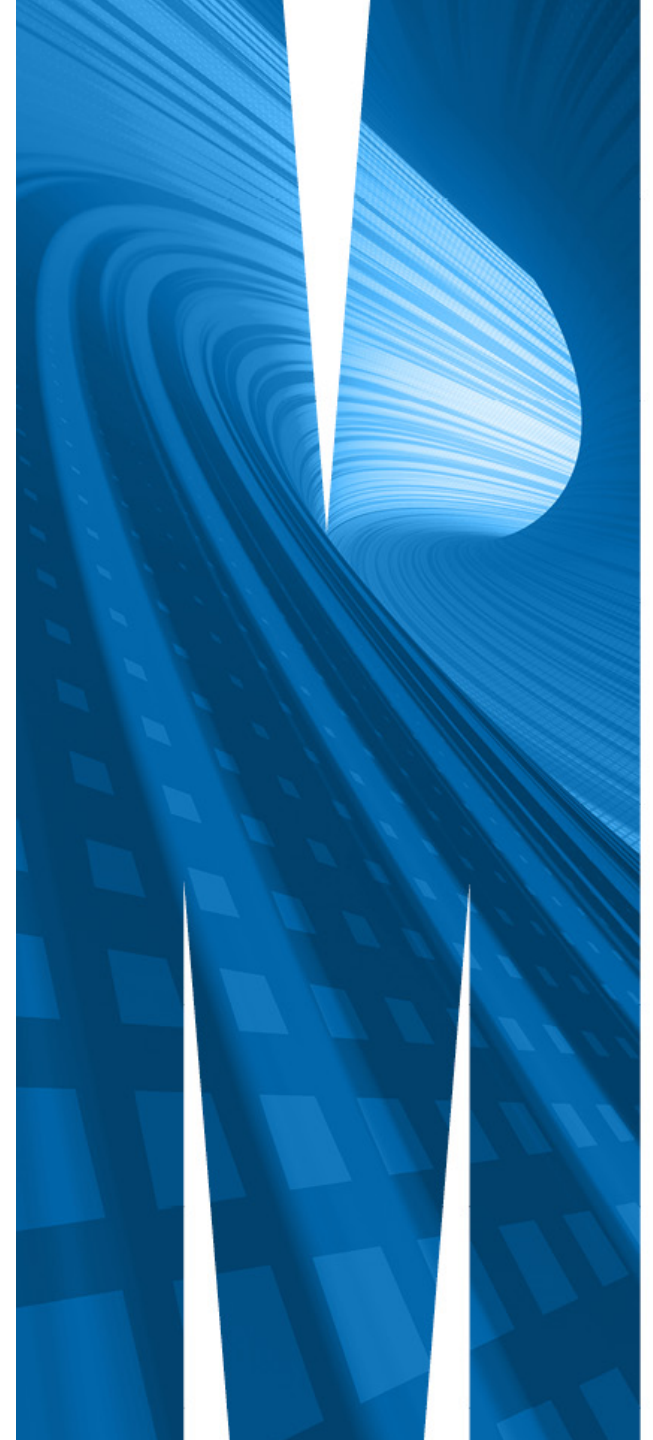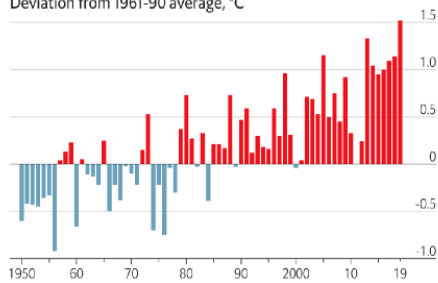# FIT3179 Data Visualisation

Week 04: Discussion of Colour, Layout, Typography, Visual Hierarchy

2019 was Australia's hottest year on record
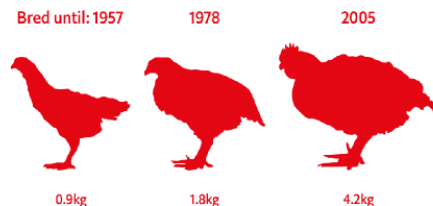
Australia, average surface-air temperature
Deviation from 1961-90 average, °C

Source: Australian Bureau of Meteorology — The Economist

Chickens have grown as they move up the pecking order

Broiler chickens, weight at 56 days old

Bred until: 1957 — 0.9kg
1978 — 1.8kg
2005 — 4.2kg

Source: "Growth, efficiency, and yield of commercial broilers from 1957, 1978, and 2005" by Zuidhof et al. — The Economist

Safe-injection sites in Europe

Drug-consumption facilities, 2018

Bergen, Oslo, Copenhagen, Hamburg, Berlin, Frankfurt, Zurich, Geneva, Paris, Amsterdam, Utrecht, Rotterdam, Liege, Cologne, Dusseldorf, Luxembourg, Bilbao, Barcelona

Number of facilities
7
1
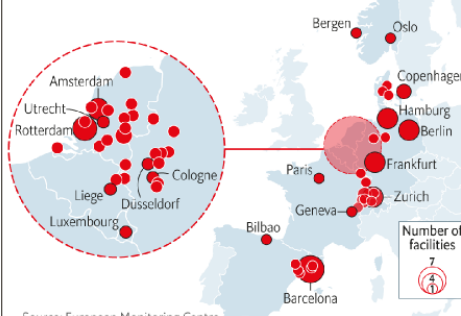
Source: European Monitoring Centre for Drugs and Drug Addiction — The Economist
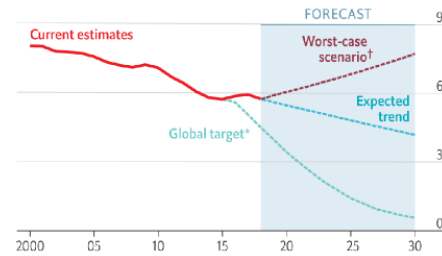
How the world is doing in the battle against Malaria

Malaria, cases as a % of population at risk

FORECAST
Current estimates
Worst-case scenario[†]
Expected trend
Global target*

2000 05 10 15 20 25 30

*Global Technical Strategy for Malaria 2016-30 †At peak rate, 2000-07

Source: WHO — The Economist

Smog in Asia is much worse than anywhere else

Air pollution, 2016 average
$PM_{2.5}$ micrograms per cubic metre, excluding dust and sea salt

Delhi

WHO long-run exposure limit
0 10 60 Max 127
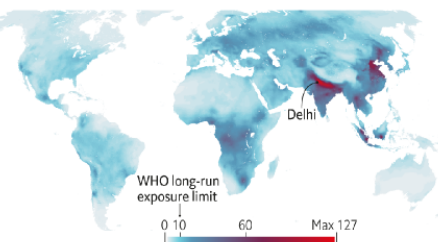
Source: Centre for International Earth Science Information Network — The Economist

Public opinion changes as younger generations replace older ones

United States, % agreeing by generation
"Gay people should be allowed to get married"

Millennial & Gen Z
Gen X
National average
Baby-boomer
Support for gay marriage has grown steadily within all age groups
Silent
Greatest (and earlier)

1985 90 2000 10 18
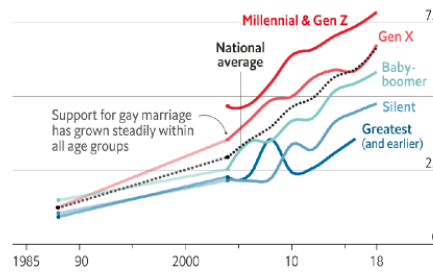
Sources: General Social Survey; The Economist

Female Uber drivers receive better tips than men

Expected tip by Uber driver's age and gender
Relative to male drivers aged 21-25, $

Female drivers
Reference
Male drivers

21-25 26-34 35-44 45-54 55-64 65+
Age group
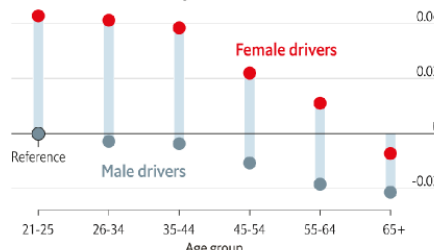
Source: "Evidence from a Nationwide Tipping Field Experiment" by B. Chandar et al., National Bureau of Economic Research — The Economist

The days when America settled more refugees than anywhere else are over

United States, refugee resettlement, '000

Annual cap

1980 90 2000 10 20
Fiscal years ending September 30th
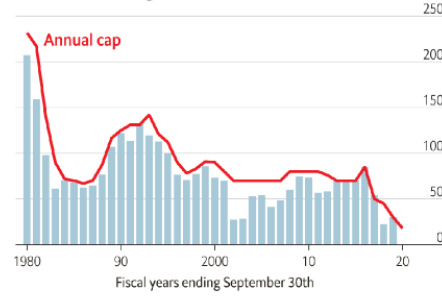
Source: Refugee Processing Centre — The Economist

How Europe's populists are changing

Europe, aggregated populist votes*, %

Left wing
Right wing

1980 90 2000 10 19
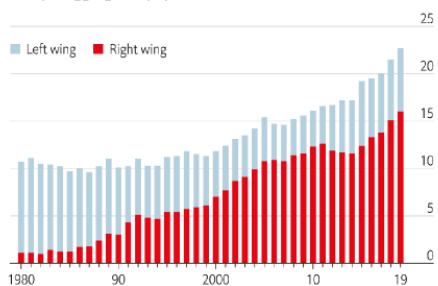
*Index of 33 countries
Source: TIMBRO — The Economist

The world's second largest rainforest is shrinking fast

SOUTH SUDAN, CAR, CAMEROON, EQ. GUINEA, GABON, CONGO-BRAZZAVILLE, UGANDA, RWANDA, BURUNDI, ZAMBIA, ANGOLA

RAINFOREST
CONGO
Congo
Bandundu, Kinshasa

Congo, active fires
October 10th-16th 2019

500 km

Source: NASA — The Economist

Where do most of the plastic bottles in the ocean come from?

Origin of plastic bottles found on Inaccessible Island
% of total

South America
Asia
Europe
Africa
Other regions

Inaccessible Island

	1989	2009	2018
Top	9	44	74
Middle		41	20
Bottom	67		
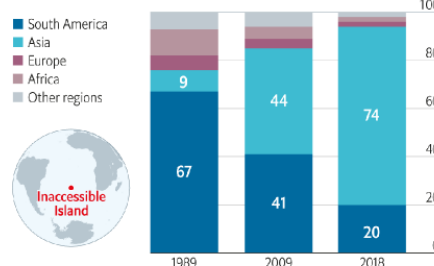
Source: PNAS — The Economist

Alcohol firms depend financially on problem drinkers' dependency

Britain, alcohol consumption, 2013-14, units per week

Non-drinkers — 0 units per week
Moderate — Average: 4, Range: 1-14
Hazardous — Average: 24, Women: 15-35 /, Men: 15-50
Harmful — Average: 73, Women: 36+ /, Men: 51+

25% of Britons drink hazardous or harmful amounts — % of people
16 | 59 | 21 | 4

They account for 68% of industry revenues — % of revenues
32 | 45 | 23

They drink 78% of all alcohol consumed — % of units consumed
23 | 48 | 30

Sources: "How dependent is the alcohol industry on heavy drinking in England?" by A. Bhattacharya et al.; NHS — The Economist

- Any question about the lecture notes and videos?
    1. Colour spaces, colour design for visualisation
    2. Visual hierarchy, figure ground
    3. Layout
    4. Typography

- Or the reading materials?
    1. Gestalt principles - Storytelling with data, p. 71–80
    2. 4 blog posts by Lisa Charlotte Rost

Studio

Week 4 Studio includes three activities:

- Week 3 forum posting discussion
- Part A: Tableau Activities: Multiple Data Sources
- Part B: Introduction to HTML, Github & Visual Studio Code

  📄 Part A: Tableau Activities - Multiple Data Sources 1.5MB Archive (ZIP)

  📄 Part B: Introduction to HTML, Github & Visual Studio Code 3MB Archive (ZIP)

Forum Postings

- You should have received feedback for your forum posting of Week 2
- Feedback for posting of Week 3 in studio or on forum

Due: Sunday, 18 August 2024, 11:55 PM

Find a partitioned poster or another rather complex multi-component visualisation with an interesting layout and creative use of typography and colour. Analyse the following aspects in **not more than 200** words:

- Colour: How is colour used to show quantitative and qualitative information? What can be improved regarding the use of colour?
- Layout: Identify the sight lines used. Critique the layout (balance, visual centre, alignment, white space). What could be improved?
- Typography and label placement: What kind of typefaces are used? Suggest an alternative non-standard typeface for this visualisation. How are weight, size and other type characteristics changed to create visual hierarchy and highlight information? Can the placement of annotations be improved?

Marking: The four forum postings combined contribute 4% to the unit mark. The mark for this forum posting has four components, each is worth 0.25 marks: (1) selection of a complex visualisation with an interesting layout and creative use of typography; (2) correct colour analysis and suggestions for improvements, (3) correct layout analysis and suggestions for improvements, (4) correct typography and label placement analysis and suggestions for improvements.

Homework Week 4

- Apply layout, colour, typography

- Short report

 [Homework Assessment Week 4: Visual Design](#)

Due: Friday, 16 August 2024, 11:55 PM

The homework instructions can be found in the assessment file.

Tableau Resources for Homework Week 4:

- Basic dashboard functionality.
- Format text and numbers.

Tableau Exercise

Tableau Exercise

This exercise is not marked, but strongly recommended. Post your questions about this exercise on the Ed forum.

Week 4 Tableau Exercise   1.1 MB Archive (ZIP)