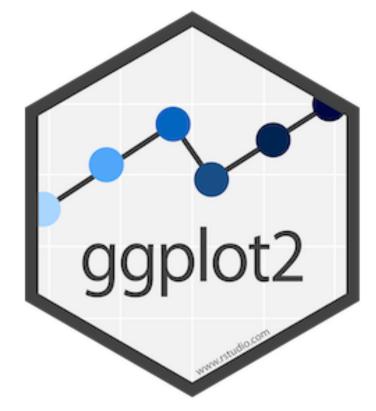
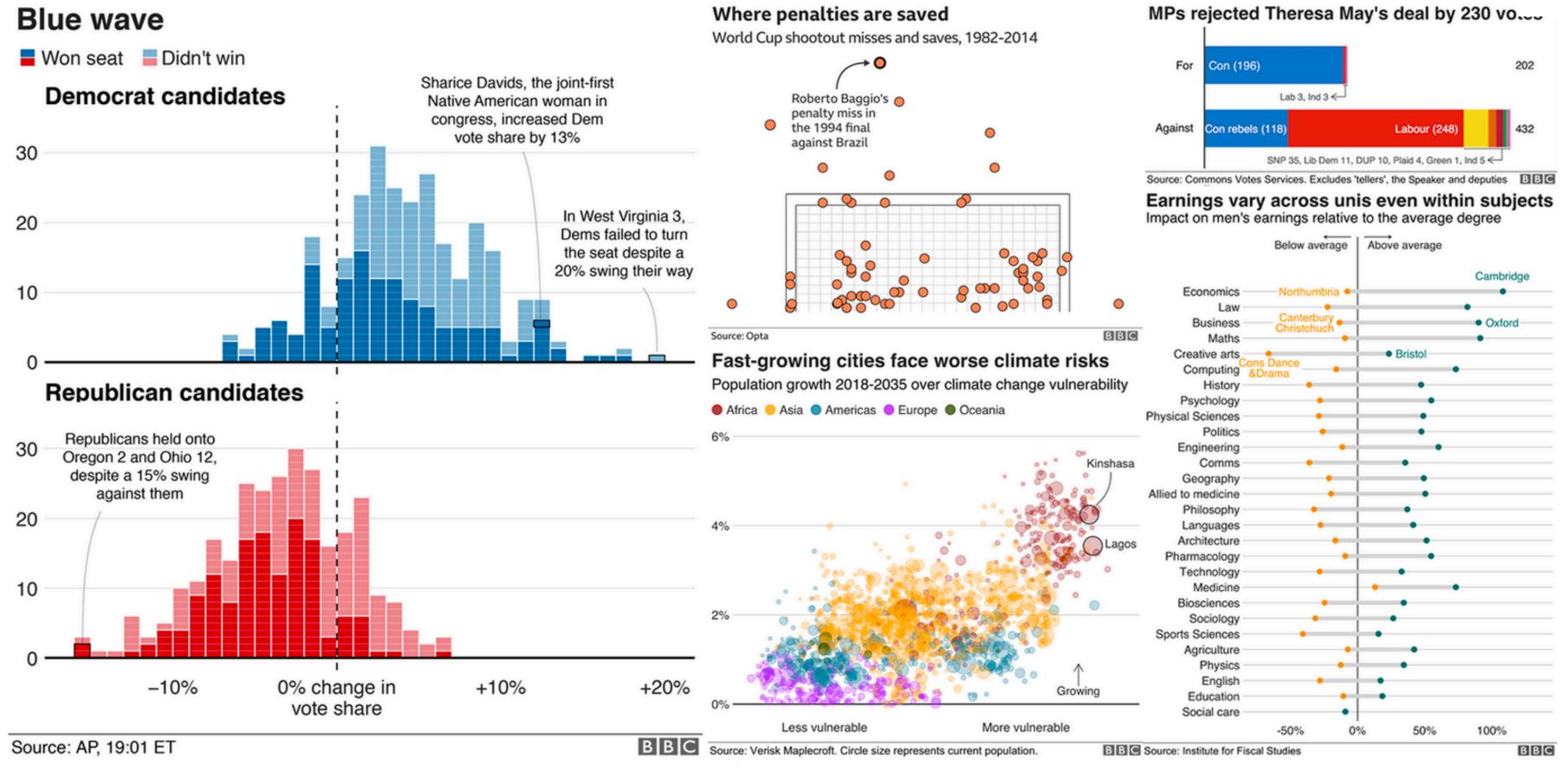
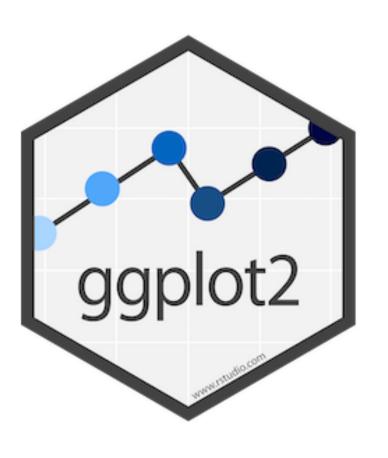
Publication-Quality Graphics ggplot2



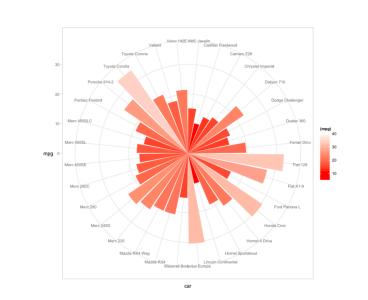


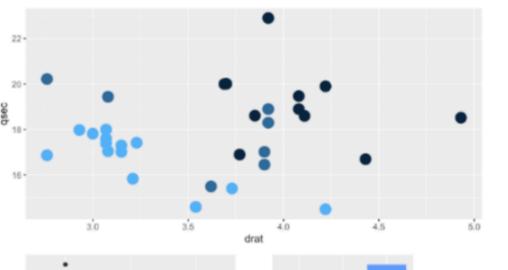
Grammar of Graphics

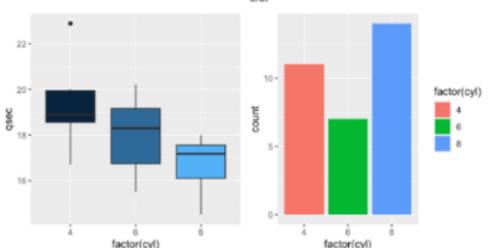


Any plot can be expressed from the same set of components:

- data set
- coordinate system
- set of geometric objects or geoms (visual representation of data points)











Every ggplot2 plot has 3 key components:

- (1) data
- (2) set of aesthetic **mappings** between variables in the data and visual properties on the plot *x, y, colour, size, shape*
- (3) at least one geometric layer, created with a **geom** function *line*, *points*, *columns*

```
ggplot(data = gapminder, mapping = aes(x = gdpPercap, y = lifeExp)) +
geom_point()
```