**Multi-dimensional data viz topics**

Faceting – this is a good intro and motivation into it: <https://www.data-to-viz.com/caveat/spaghetti.html>

Scatterplots with multiple dimensions embedded

* Position, size, colour as additional dimensions (i.e. total of 4D)
* <https://www.data-to-viz.com/graph/bubble.html> (you can grab the code by clicking CODE) at any point
* Also another example <http://r-statistics.co/Top50-Ggplot2-Visualizations-MasterList-R-Code.html>
* Note, there is a fair bit of technical detail necessary for making these plots – the R code to make the gapminder plot is all on that site, but some of the elements are either totally new or non-trivial for the students so far. This is a good opportunity to build up these skills explicitly, part by part: pipe operator (this can be copy-pasted from workshop week 4), filter(), select(), factor(), arrange(), mutate(). Look to R4DS textbook for useful explanations of each of those, and then they can be put together to make this scatterplot/bubbleplot
* There are also examples of worse versions of the same plot at the bottom of this website – prompt them to explore those by changing the order of their parameters, and ask qs about which one works best etc

Spider/radar plot

* See in the dropbox the radar plot example – hopefully this can just be used with a small amount of editing? Otherwise, the other approach:
* <https://www.data-to-viz.com/caveat/spider.html> (although if possible can we omit the shading and just include the line?)
* Please also do the parts here about the other options for presenting the same data, but with less-fancy plots – lollipop, difference lollipop, faceted bar plots – while also highlighting here the functions that are new to them this week (filter(), select(), etc)
* A good exercise here would be to get them to change the order of the parameters, like in the plot with three side-by-side spider diagrams here

Parallell plot

<https://www.data-to-viz.com/graph/parallel.html>

Sankey diagram / alluvial plot

* NOT the version where there are flows between nodes (see the website below – not the first example, but the second kind)
* The version where the data is continually subset differently (‘source to end’

<https://www.data-to-viz.com/graph/sankey.html> has some code, but it is a pretty messy example. I think maybe this is better:

<https://cran.r-project.org/web/packages/ggalluvial/vignettes/ggalluvial.html>

Or could you poke around for another example if that doesn’t work?

Sunburst

Heatmap

IS ANYTHING CRITICAL MISSING? (n.b. I am keeping chord diagrams in my pocket for the network plots week instead of the multi-d week)