Let's make a scatterplot matrix!

In this lab you will be working with multivariate data, data with multiple variables, and you will look for relationships between the different variables. You will do this by making a scatterplot matrix. What is a scatterplot matrix? It is a matrix of scatterplots! Basically, it is a quick way to look at the relationship between pairs of variables. Feel free to look up scatterplot matrices on the Internet before going on.

While perusing Kaggle I came across a dataset on chocolate!

Setup

Begin by downloading the `scatterPlotMatrix.html`, `iris.csv`, and `flavors_of_cacao.csv` files from Moodle. You should be able to run the code immediately to see the Bostock D3 example of a scatterplot matrix. We will adapt this code to look at chocolate!

- Make sure that your initial code works! Then update the code to read in the `flavors_of_cacao.csv` file.
- Our matrix will be 3×3 instead of their 4×4 matrix. Start by updating the `size` of each plot to be 320 (1/3 of 960).
- Now we need to get our data into a form we can use. I know this is your favorite part!
  - We will plot the ReviewDate, CocoaPercent, and Rating data. Convert these to numbers. Even though the year should be read in as a data, you may read it in as a number.
  - We are only interested in three variables, ReviewDate, CocoaPercent, and Rating. Update the `domainByTrait` code so that you are only looking at these variables. Can you figure out what this code is doing?????
  - color your circles by Location, a nominal data type.
  - There are a lot of different locations, and a lot of different circles. Use the `filter` function on your circles to look at a few locations of interest.

    ```
    .filter(function(d) { return d.Location == "France";}
    ```

  - Finally, make some changes to your circle styles to adjust the appearance of the hidden circles. There is so much data that it is hard to really see what is going on. For example, you can try in `circle.hidden` make `fill` *white*, set `stroke` to a light gray color, and set `stroke-opacity` (range is from 0 - transparent, to 1 - opaque) close to transparent.

Scatterplot matrix II

Try this with some of the data for your final project. Do you have multiple variables that you would like to compare?