Where can one find the best artisanal bar of chocolate?

Introduction

I found a New York Times Article written in December 2015 called "Picking the Best in Bean-to-Bar Chocolate"[1]. The author Pete Wells describes his foray into the world of artisanal chocolate by describing a particular company called Mast Brothers. Rick and Michael Mast started their chocolate company in 2007 and is now based in Brooklyn. Wells then goes on to conduct a small experiment to see how Mast Brothers compares to other world-class chocolate in Brooklyn.

I set out to create a visualization to accompany this article by giving the reader a further exploration into the best bean-to-bar chocolate of the world. This visualization would be placed at the end of the article because that is just when Wells summarizes his small personal comparison of other bars. It would expand upon that experiment.

I wanted to first answer the questions:

- Where are the companies that have the best chocolate?
- Which countries have the best chocolate?
- How does Mast Brothers compare?

The Dataset

I found a dataset that perfectly matched this article on Kaggle that is called "Chocolate Bar Ratings"[2]. It contains more than 1,700 expert ratings of different artisanal chocolate bars from more than 400 companies all over the world.

It has the following columns:

Company: Name of the company manufacturing the bar.
Specific Bean Origin Or Bar Name: The specific geo-region of origin for the bar.
REF: A value linked to when the review was entered in the database. Higher = more recent.
Review Date: Date of publication of the review.
Cocoa Percent: Cocoa percentage (darkness) of the chocolate bar being reviewed.
Company Location: Manufacturer base country.
Rating: Expert rating for the bar.
Bean Type: The variety (breed) of bean used, if provided.
Broad Bean Origin: The broad geo-region of origin for the bean.

Preprocessing

The only preprocessing that was required was to change the column names to be separated by and underscore rather than a space.

Visualization

Method

I used D3.js to create a bar chart that has mean bar rating for each company on the vertical axis and a particular company on the horizontal axis. It is primarily sorted alphabetically by the company location and then within each location, it is again sorted by the mean bar rating.

Colors are chosen from a random color scale containing 12 distinct colors.

Labels for a location group are chosen to be horizontal if there are more than 40 unique companies within that location and are chosen to be vertical if there are between 6 to 40 unique companies. If there are less than 6 unique companies, I chose not to place a location label.

I also highlighted Mast Brothers in the chart by using a transition to yellow of the bar and a pointer to the mean rating. I also added some text to supplement this.

The user can additionally hover over a specific bar to view information such as the company name, the company location and the specific mean rating for all of that company's bars.

Discussion

The animation grabs the user's attention to the company that was just referenced in the article and lets them know where it actually ranks. I wanted to show that actually Mast Brothers has merely average artisan chocolate.

The hovering is useful for a user to explore the data and find a specific company they might be looking for or to see an exact rating.

The secondary sort within in each company location makes it easier to scan.

The primary sort of company location makes it easy to find a location because it is sorted alphabetically, which is a natural mapping. Also, the location labels give easy markers for the user to navigate the chart without sacrificing comprehension. I chose to use a horizontal layout when there was ample space because that was the easiest for a reader to comprehend. If there was only space for a vertical label, I inserted one because, at the very least, it was a helpful guide. If there was no space for any label, I had to rely on hovering and the alphabetical mapping for the user to find the location and company. Combining this with color scheme makes inter-location comparison very easy.

Conclusion

Not only does this visualization address the questions I set out to answer, it also lets you see how many different artisanal chocolate companies there are for a given country and the proportion of them that have high ratings for their bars.

Please find the relevant resources below.
GitHub repository: https://github.com/lschlessinger1/Storytelling-Visualization
Visualization: https://lschlessinger1.github.io/Storytelling-Visualization/main.html

Further Work

I wanted to do more with each feature, but lots of missing values. Also, as it's a Food New York Times article, a reader may only want a quick insight. Adding more features may eschew a reader from interacting with the visualization.

Further work could include clicking on a specific company to see their bars and ratings, possibly as a tooltip of a new bar chart, a better color scheme rather than choosing randomly, adding a map

visualization, etc. Other topics could be addressed such as a more detailed analysis of specific companies. For example, maybe a company has one highly rated bar, but many other low rated ones.

References:

1. https://www.nytimes.com/2015/12/30/dining/mast-brothers-taste-test-bean-to-bar-chocolate.html
2. https://www.kaggle.com/rtatman/chocolate-bar-ratings