

Comparison of two Data Visualization Packages

Briana Giasullo

When I first started with Tableau, I did not find the set up very intuitive. However, the tutorial video was easy to follow and allowed me to start experimenting. The IBM Cognos tutorials were less helpful; there was too much content and I was annoyed that I had to keep clicking through to figure out how to get started. Instead, I first tried out Tableau and then realized that Cognos has a similar setup.

At first I didn't like the drag-and-drop functions in Tableau, but after a while I was doing it without even thinking. It seems like the program is designed for those who are not ridiculously software-savvy because everything is pretty simple and experimenting is easy.

I ultimately decided that the best data was from the Museum of Modern Art (MoMA) about artists and artworks, but found that the artworks data was not great because things like dates and mediums were all formatted differently. I tried using the Data Interpreter feature with Tableau but it took a very long time to load and I don't think it cleaned up the data the way I wanted it to, so I decided to clean the data myself in Excel.

I had to eliminate a lot of the data from the artworks file because it was way too big. First I selected only artworks for which the date section contained a year, because other things like months and days were inconsistently formatted. Tableau read the year as a number or measure, but converting it to a date and dimension was very easy. Then I took a random (extremely small) sample of the data and added some columns to count the frequency of certain labels, making it easier to use in Cognos (Tableau provides an option to count variables within a label).

Using the same data for Cognos was very similar as with Tableau, but there seem to be a few extra steps involved for some of the functions, and loading time is slower. I don't like that the setup of the worksheet provides very little room for my visualization and so I can't easily see the details. I also don't like that I am provided with less color choices for the data points. Creating a tree map was probably the easiest visualization, but I still wish that the visualization would be larger. Cognos provides way less options for filtering; Tableau allows the user to choose the top group of data, or select only a portion of numbers, etc. but Cognos forces the user to select data from a list of every option which is cumbersome.

Overall I had a much more difficult time figuring out the functions for Cognos but I was ultimately able to get many of the same analyses as with Tableau. At first the only thing I liked in Cognos that Tableau doesn't do is that I can choose what visualization I want, then add bits of data to fit the parameters of the visualization. With Tableau I have to switch the data around until I'm given the option to use the visualization that I want. However, I later realized that Cognos's option to choose a visualization before selecting the data actually complicates things, because trying to force data into a visualization for which it's not suited is a waste of time.

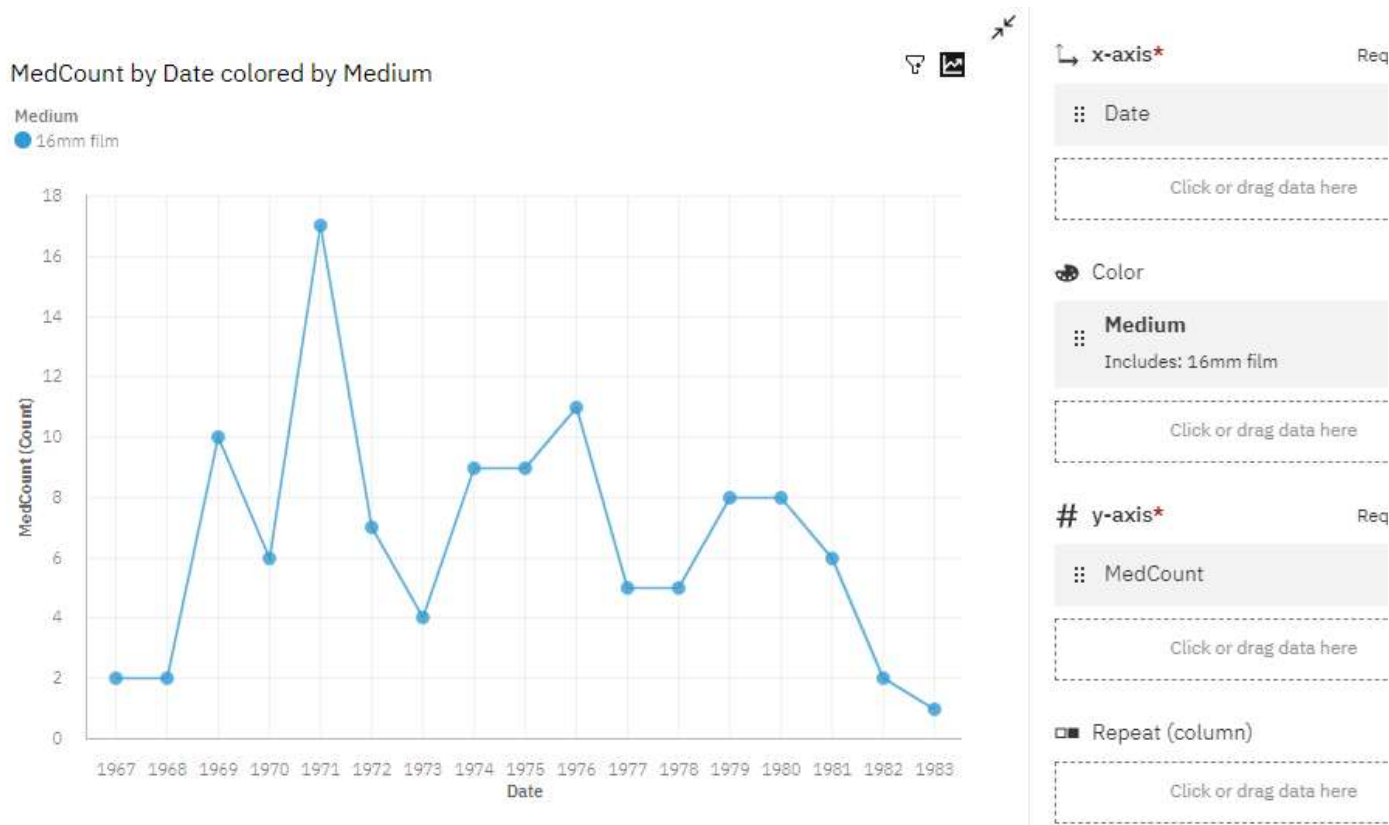
With both programs, the data makes a huge difference. The artworks data that I had was too large and messy/inconsistent to use without cleaning it up and taking out a very small sample, which makes it unreliable because my sample was taken by just randomly selecting some artworks. The artists data was so much easier to use and manipulate because it was smaller and the data was mostly consistent.

Neither program is very good at cleaning data. I think IBM Cognos is better at interpreting the data but the user is not made privy to how exactly the data is being interpreted. Tableau has the Data Interpreter feature but again it's not clear what exactly happens to the data when this option is selected, and working with the data in

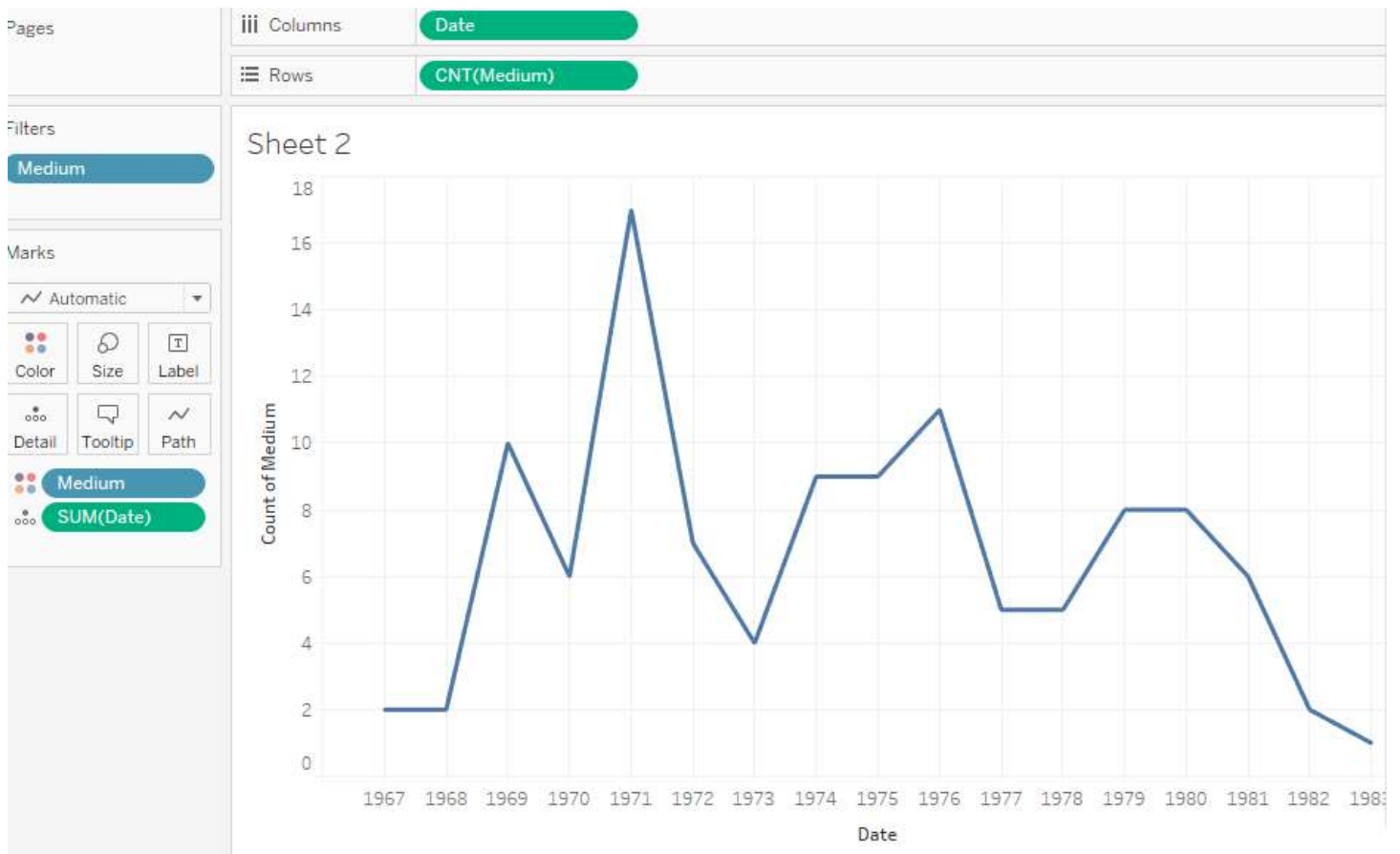
this format is cumbersome. Cognos seems to be better at more complex analyses while Tableau is more user-friendly, which is why I would choose Tableau for my own data analyses. If I wanted something more complex, I would hire somebody who better understands IBM Cognos to perform the analyses using that program.

Below are some sample visualizations that I created.

Artworks in 16mm film over time in Cognos:

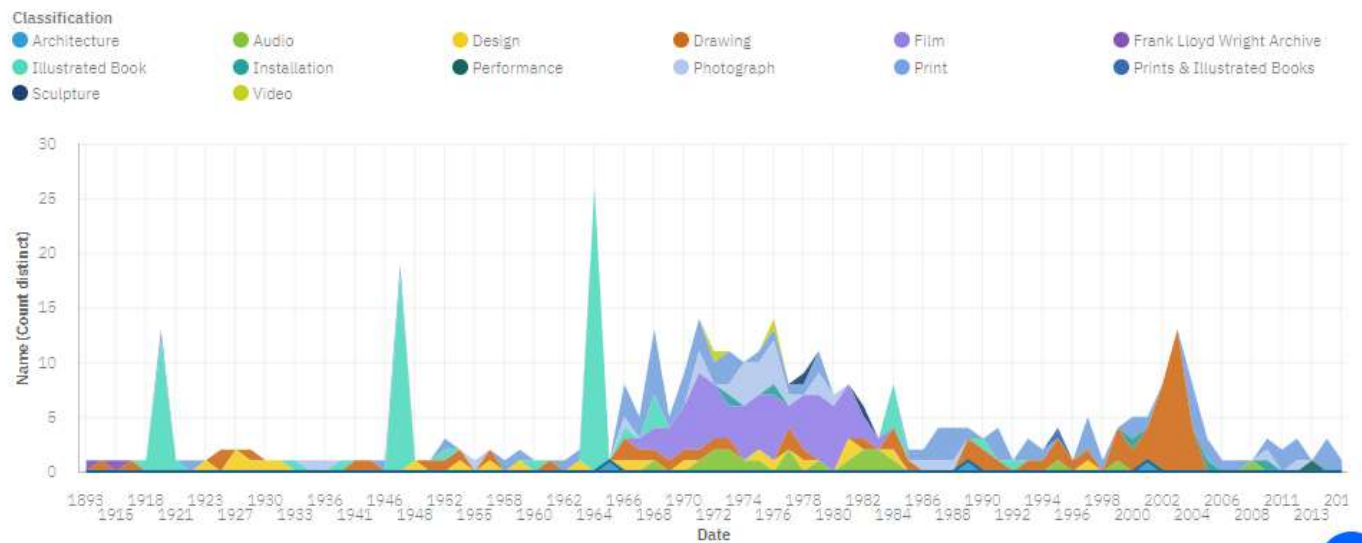


The same chart in Tableau:



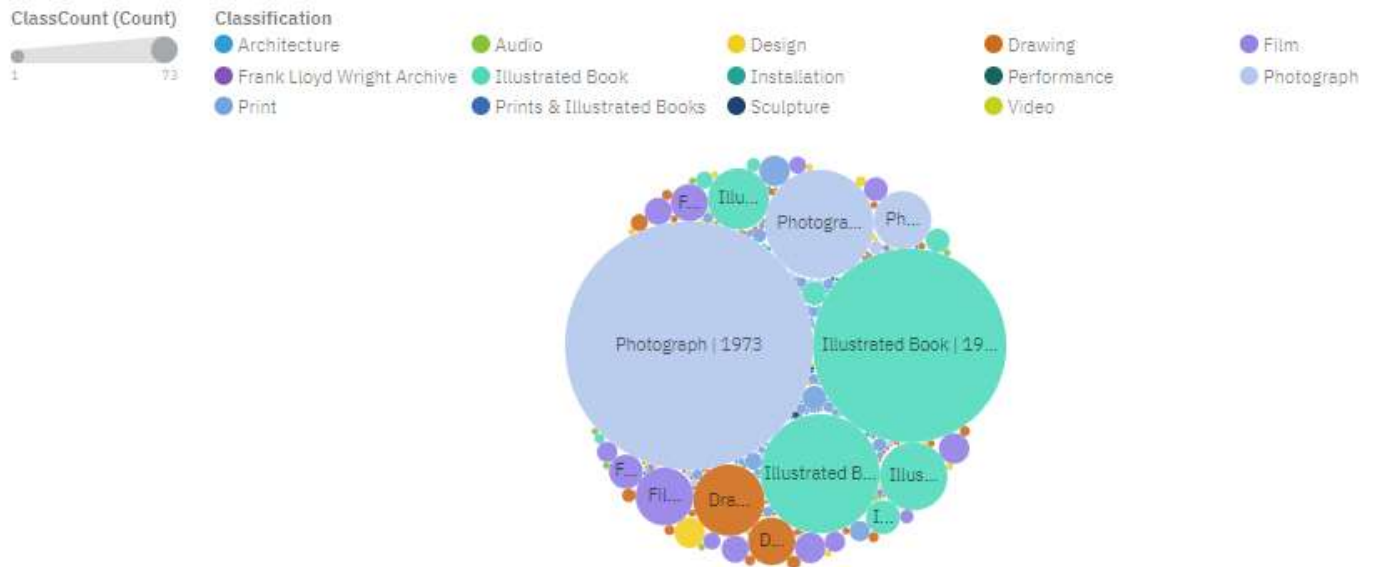
Probably the best chart that I made in Cognos - artists and their work classifications over time:

Name by Date colored by Classification

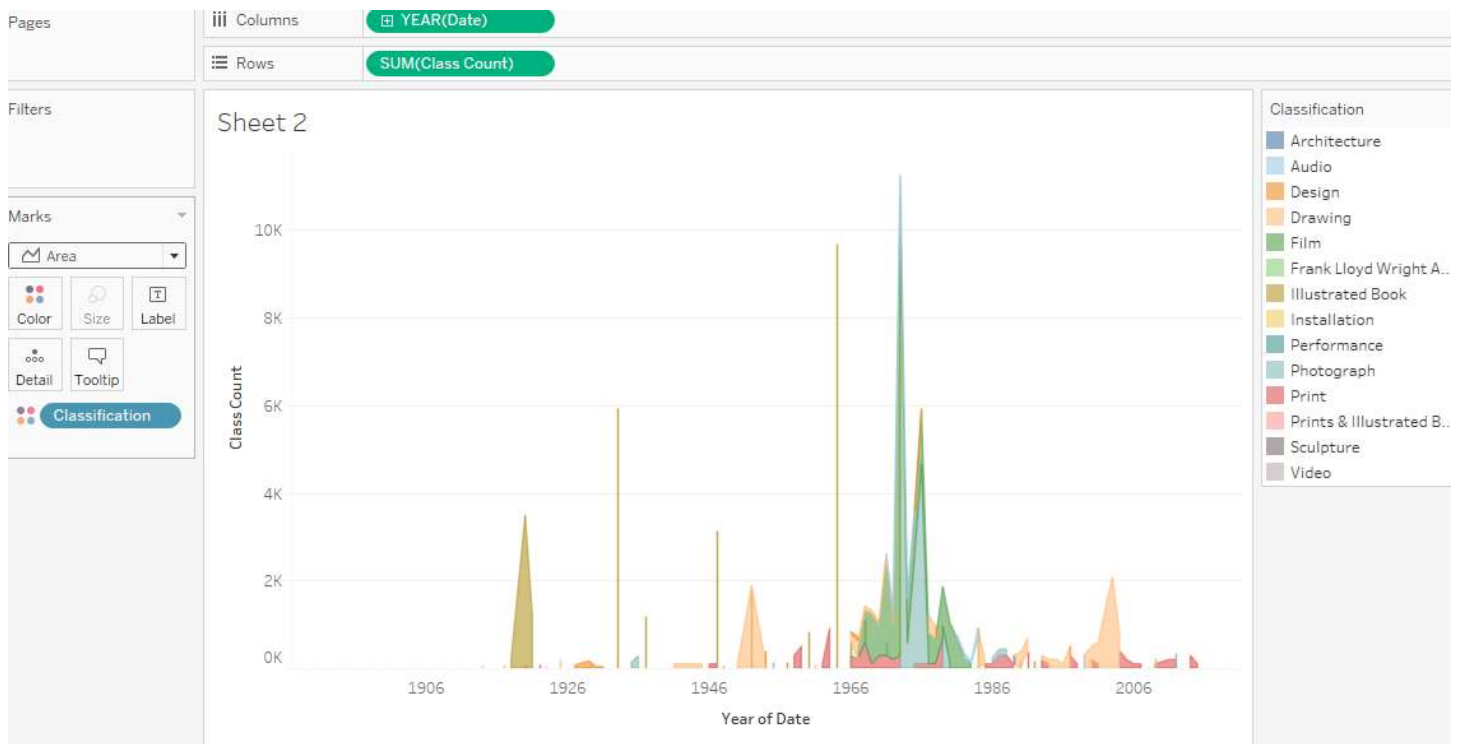


The classification bubbles looked good as well:

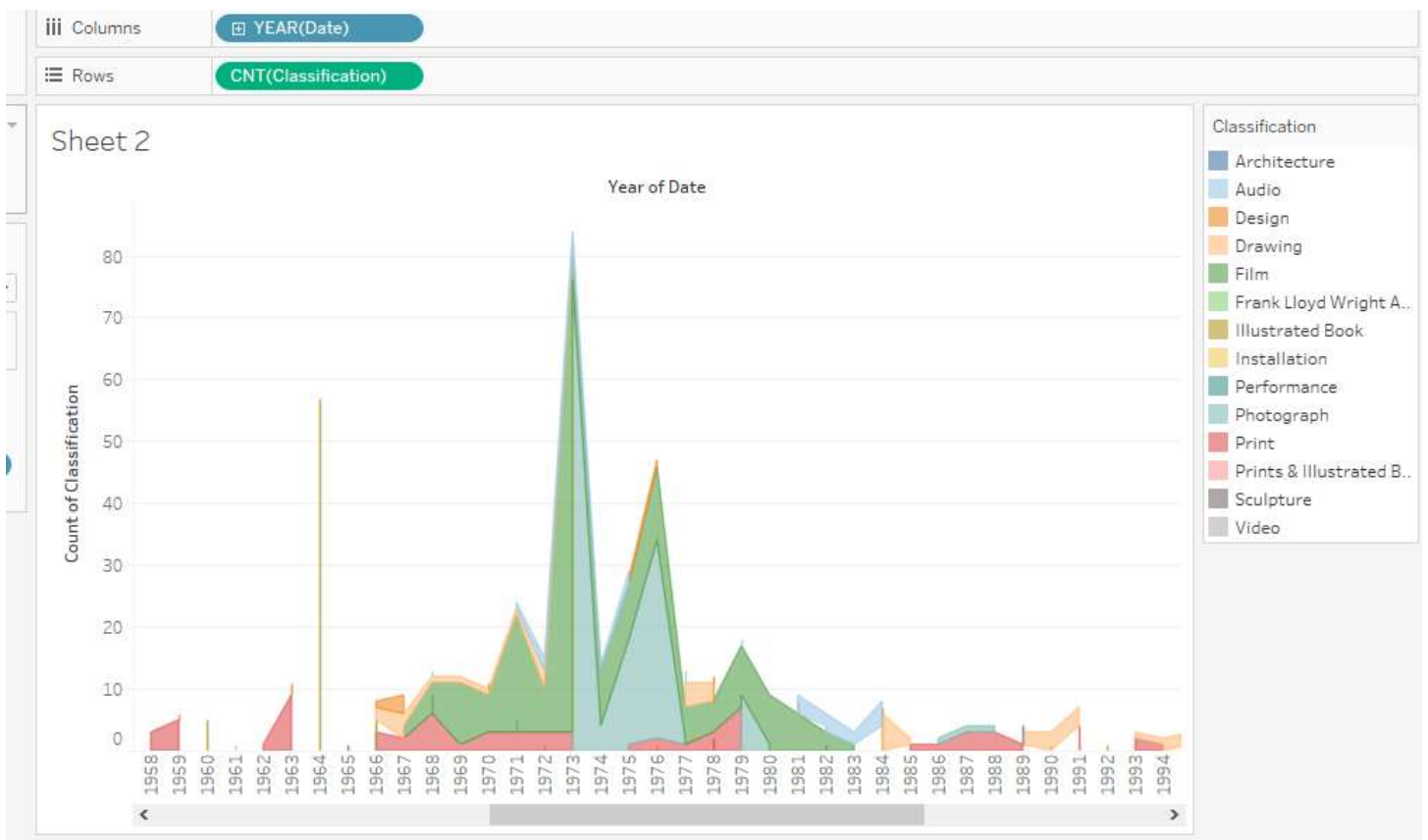
Classification and Date colored by Classification sized by ClassCount



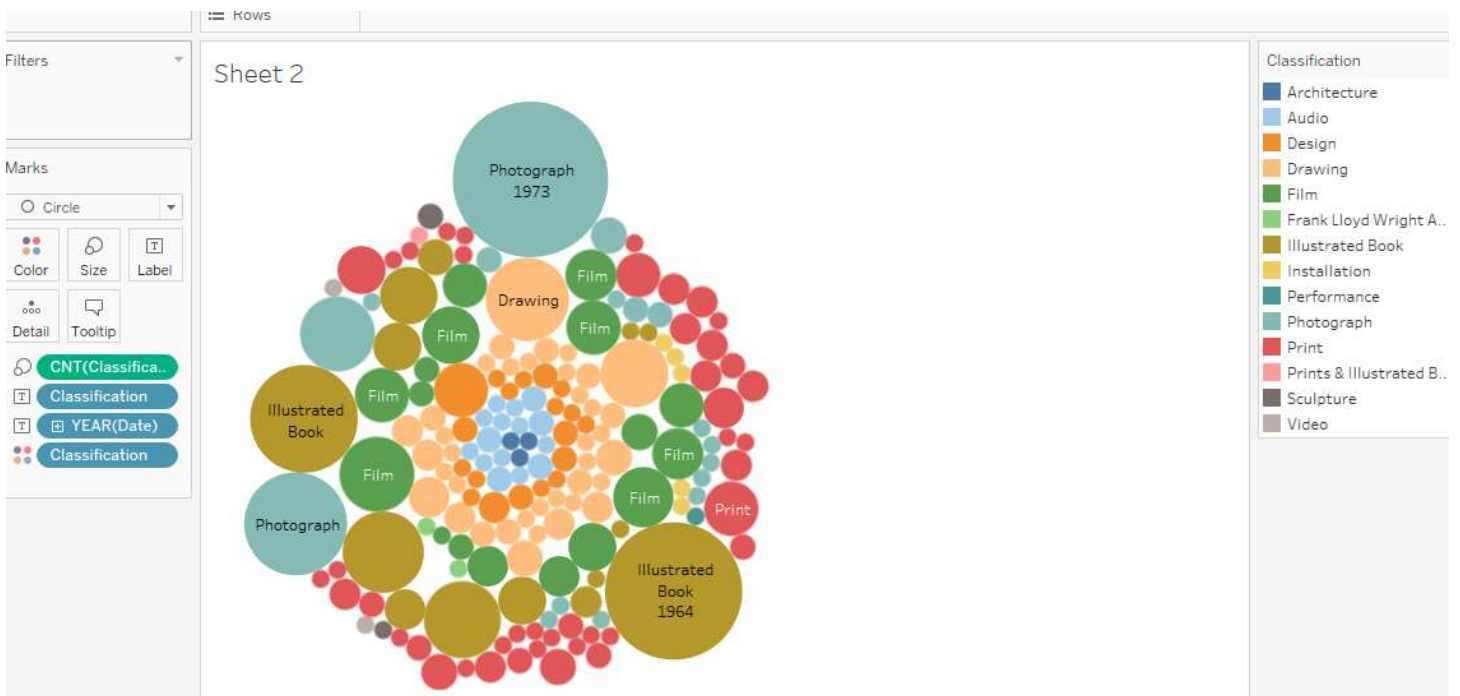
Classification over time doesn't look as good in Tableau:



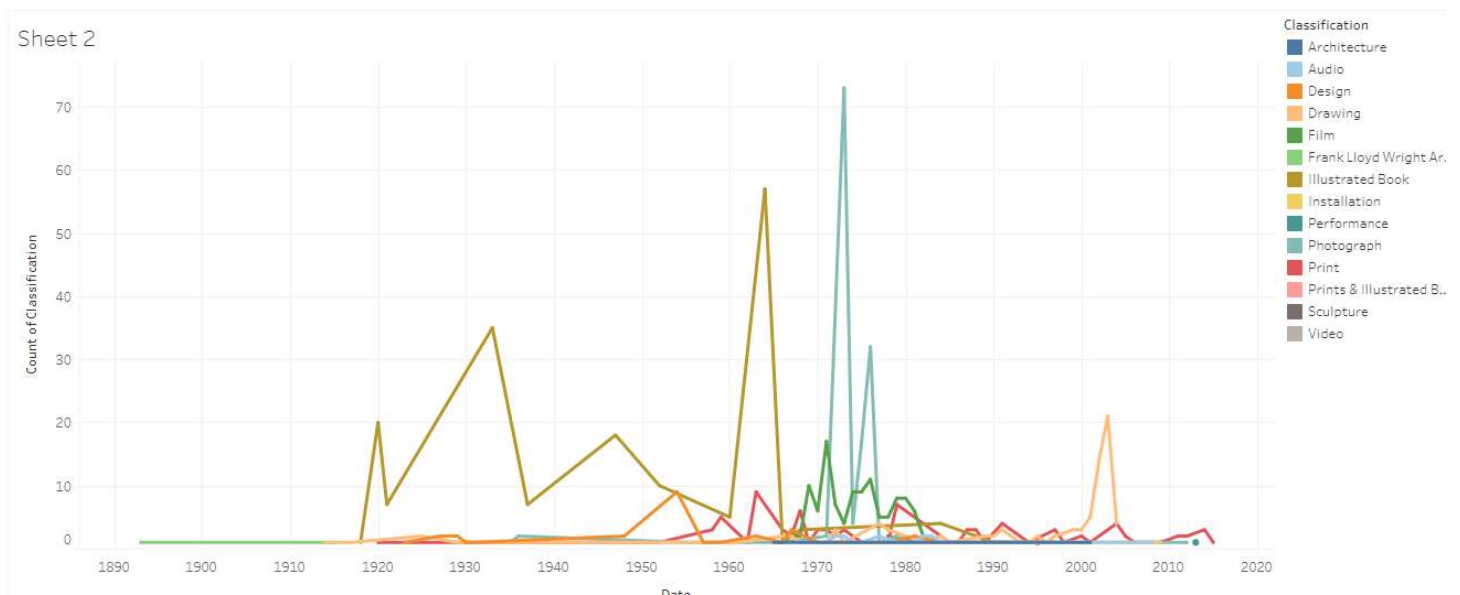
It's a little better when I change change the date axis to discrete:



The bubble visual is more aesthetically pleasing in Tableau:

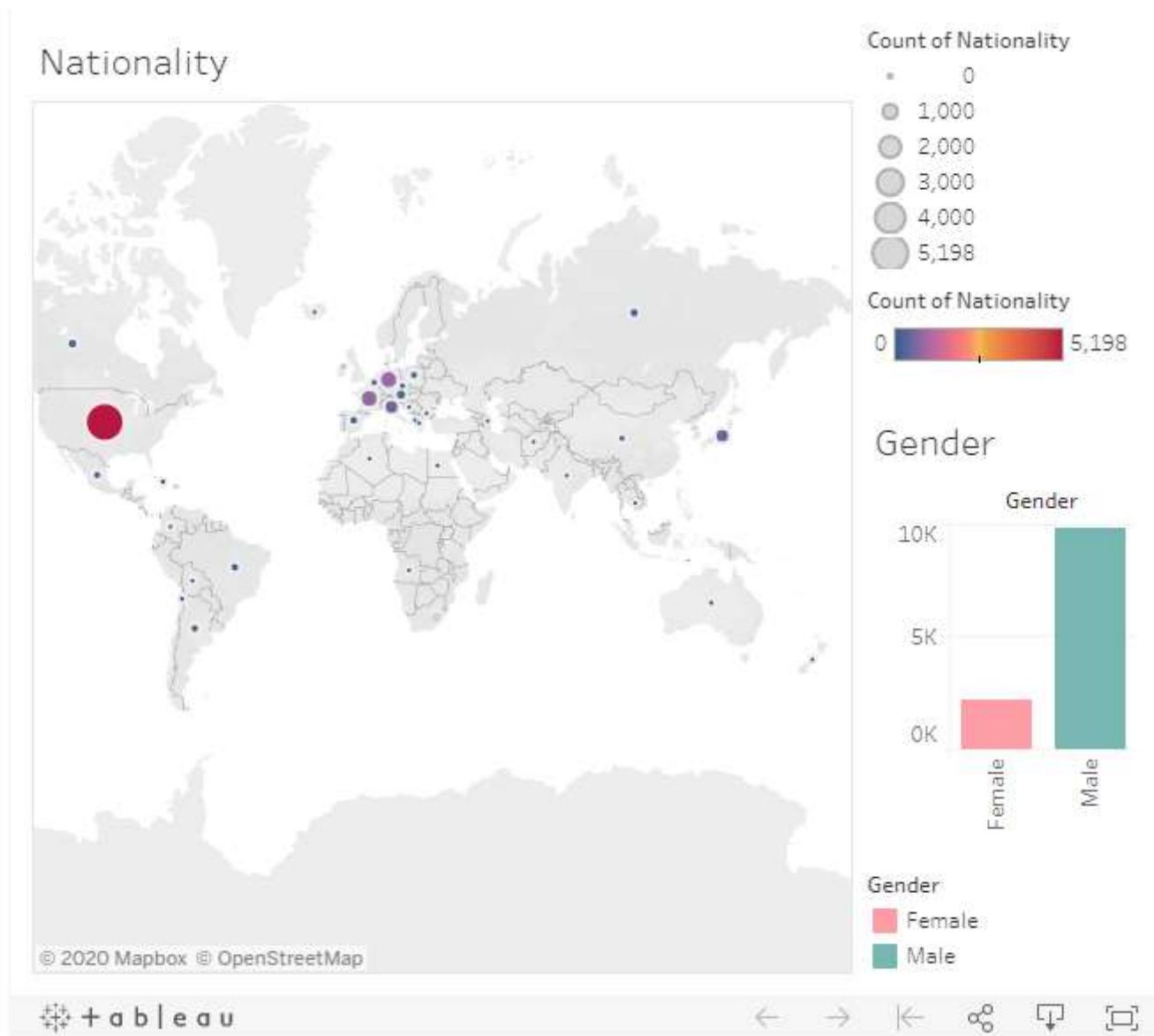


Here's an interesting classifications-over-time in Tableau:



I'm curious to know why there was such a large spike in drawings in the early 2000s. The spike in photographs in 1973 probably coincided with increased availability and decreased prices of cameras at that time.

Tableau made it very easy to create this breakdown of artists by nationality and gender:



Overall, I definitely enjoyed using Tableau more than Cognos, as shown by the more detailed visualizations that I created.