

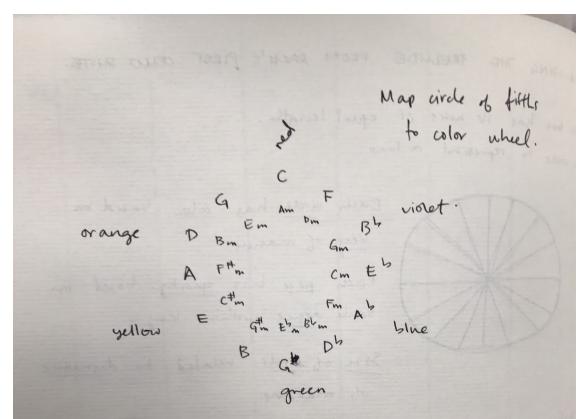
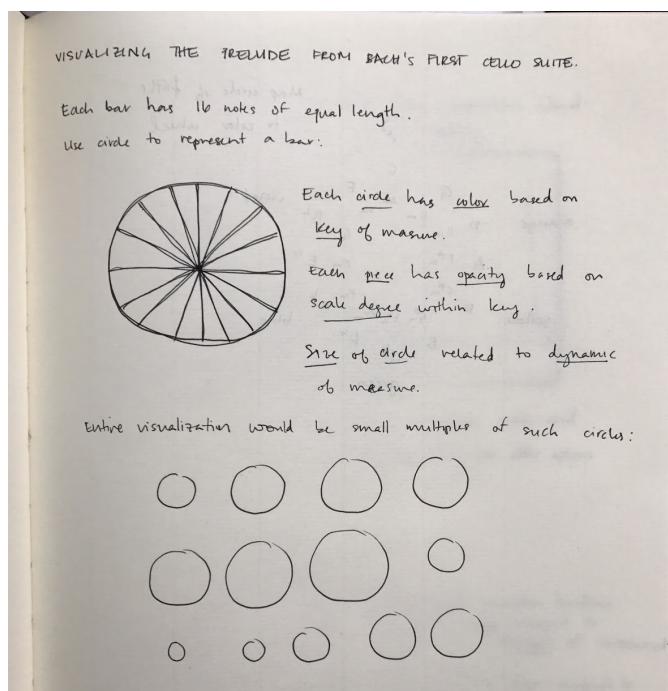
1. VISUALIZING THE PRELUDE FROM BACH'S FIRST SUITE FOR UNACCOMPANIED CELLO

This prelude is one of the most recognizable pieces of classical music, and I hope that this familiarity will allow viewers to better connect visual patterns in the visualization with the corresponding original patterns in musical sound.

The core of this visualization will be employing a mapping between two parallel spatial mappings: the Color Wheel, a way of breaking up color space, and the Circle of Fifths, a way of breaking up musical space. Colors near each other on the color wheel "feel" similar in the same way that musical keys near each other on the circle of fifths do. Using this idea I will map each musical key to color in a way that feels intuitively consistent.

The visualization will be a small multiples display of circles, with each circle corresponding to a measure of music. In this piece there are sixteen notes of equal length in each measure, so each circle will be divided into sixteen pieces. The color of the circle will correspond to the key of the measure, and each piece, mapped to a single note, will have an opacity that corresponds to the scale degree of that note within the key of that measure. Finally, the size of the circle will represent the dynamic level of that measure.

The data will be a midi file of the piece, converted to a MusicXML file.

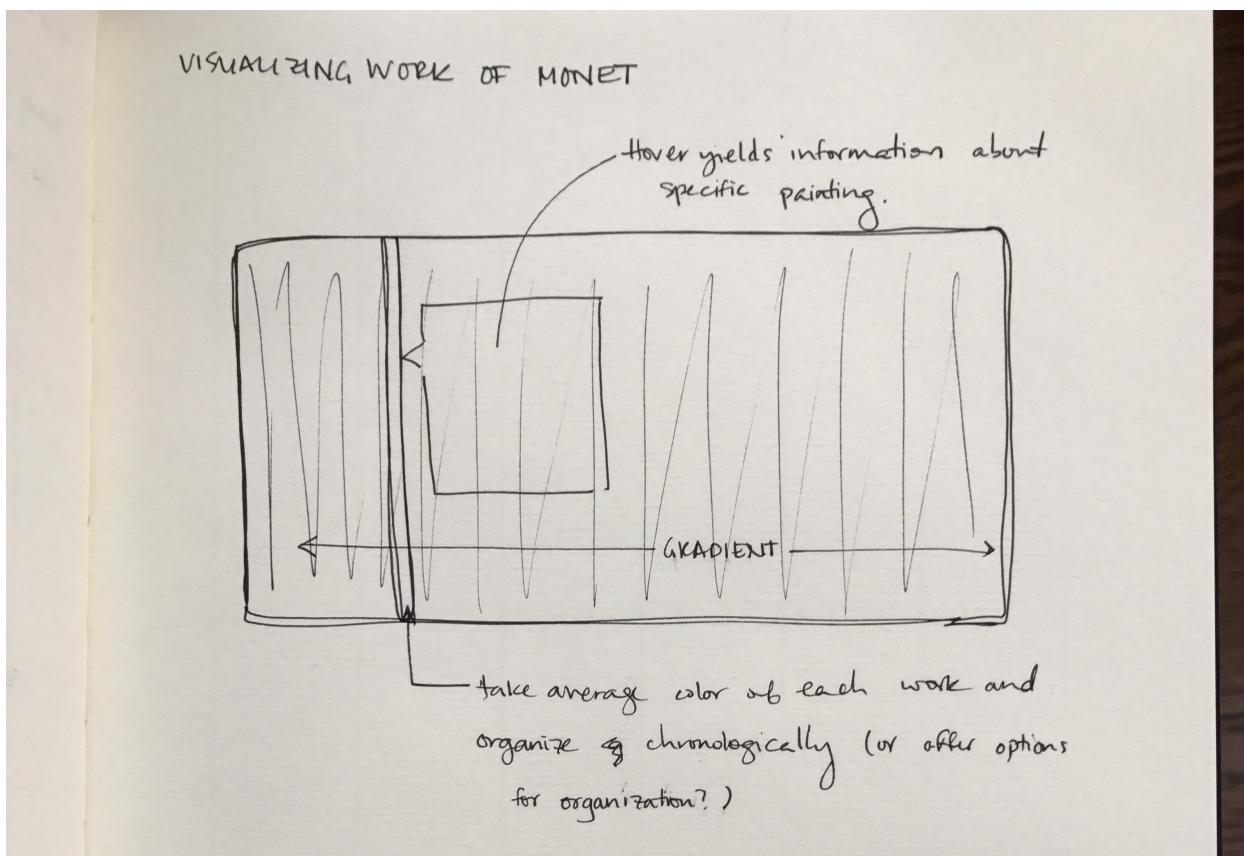


2. VISUALIZING THE WORK OF MONET

The paintings of Monet already take advantage of forming feelings and impressions using unorthodox juxtapositions of colors. In this visualization, I aim to abstract this idea one level further by finding the average color of each of the artist's paintings and establishing an impression of the work of artist as a whole.

To do this, I will construct a thin vertical rectangle for each painting filled with the painting's average color. I will arrange these rectangles chronologically, forming a gradient that spans the artist's whole life. Hovering over any rectangle will yield a tooltip that provides a view of the original painting that resulted in that average color as well as more information about the painting.

The data will come from www.monetpainting.net, which contains a complete list of Monet's paintings, with photos, organized chronologically.



3. VISUALIZING TAP WATER CONTAMINANTS IN NEW YORK

Drinking plenty of water is an essential part of living a healthy lifestyle, but unfiltered tap water can contain harmful contaminants like heavy metals, parasites, and endocrine disrupting chemicals. Many people are unaware that this is a problem that exists even in highly developed countries, and consequently, they do not take precautions to filter their water before drinking.

This visualization aims to make the level of contaminants in the New York water supply clear by visualizing the data on a map of New York. In doing so, it will personalize the figures, allowing an individual to see precisely how safe his or her nearest water supply is.

There will be a circle at each data collection point. The color of the circle will be mapped to the overall danger of the contaminants at that supply, and the size of the circle will be mapped to the number of contaminants at that supply.

The data will come from the Environmental Working Group and NYC Open Data.

