

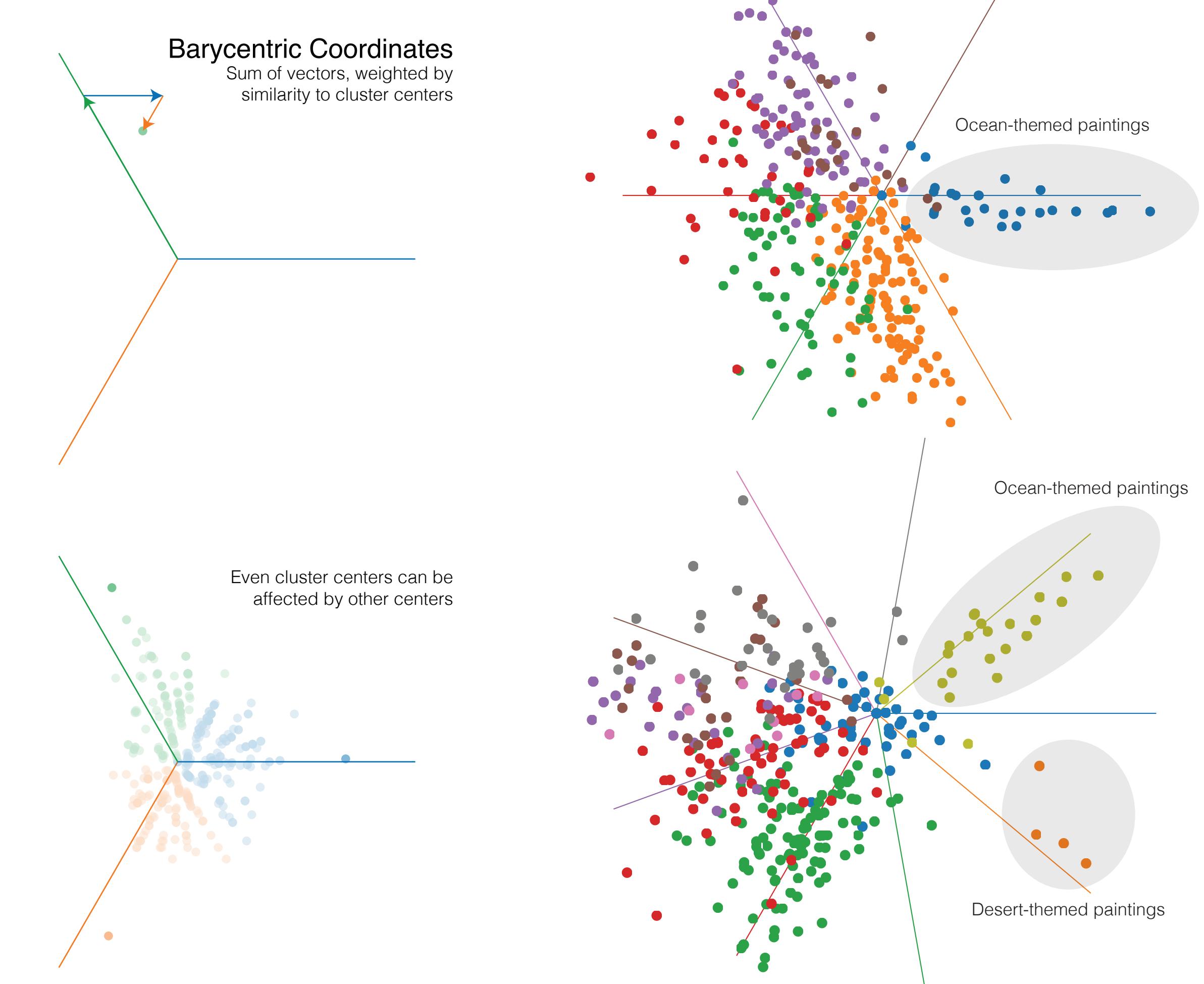
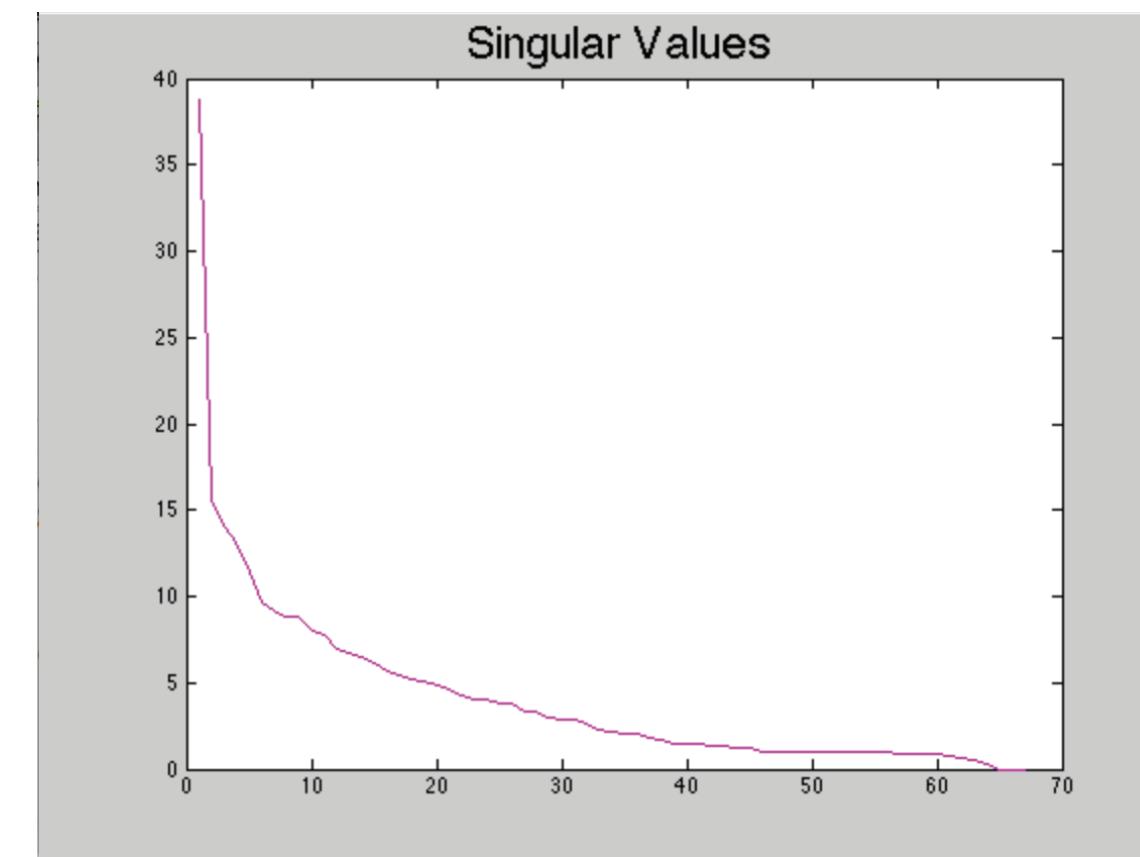
Bob Ross is the inspirational painter that we all know and love from the 1980's and 1990's on the PBS show "The Joy of Painting."

Through our analysis of Bob Ross' work, we found that his work is very diverse even though he primarily painted landscapes. You can see this in the singular values of the dataset – if there were only a couple “characteristic” Bob Ross paintings, you would see a much steeper drop.

We developed a variant of the Jaccard Similarity to give us a notion of “distance” between paintings, which we used to run hierarchical, Gonzalez, kMeans++, and k-medoid clustering techniques.

To compare results, we created an extension of Barycentric Coordinates to visualize the results of clustering; while there are some nuances, these plots give us a good idea of the size and tightness of clusters.

Only one cluster really stands out: Bob's ocean-themed paintings are somewhat distinct from the rest (though kMeans++ with  $k=9$  was able to find a very tiny cluster of desert-themed paintings).



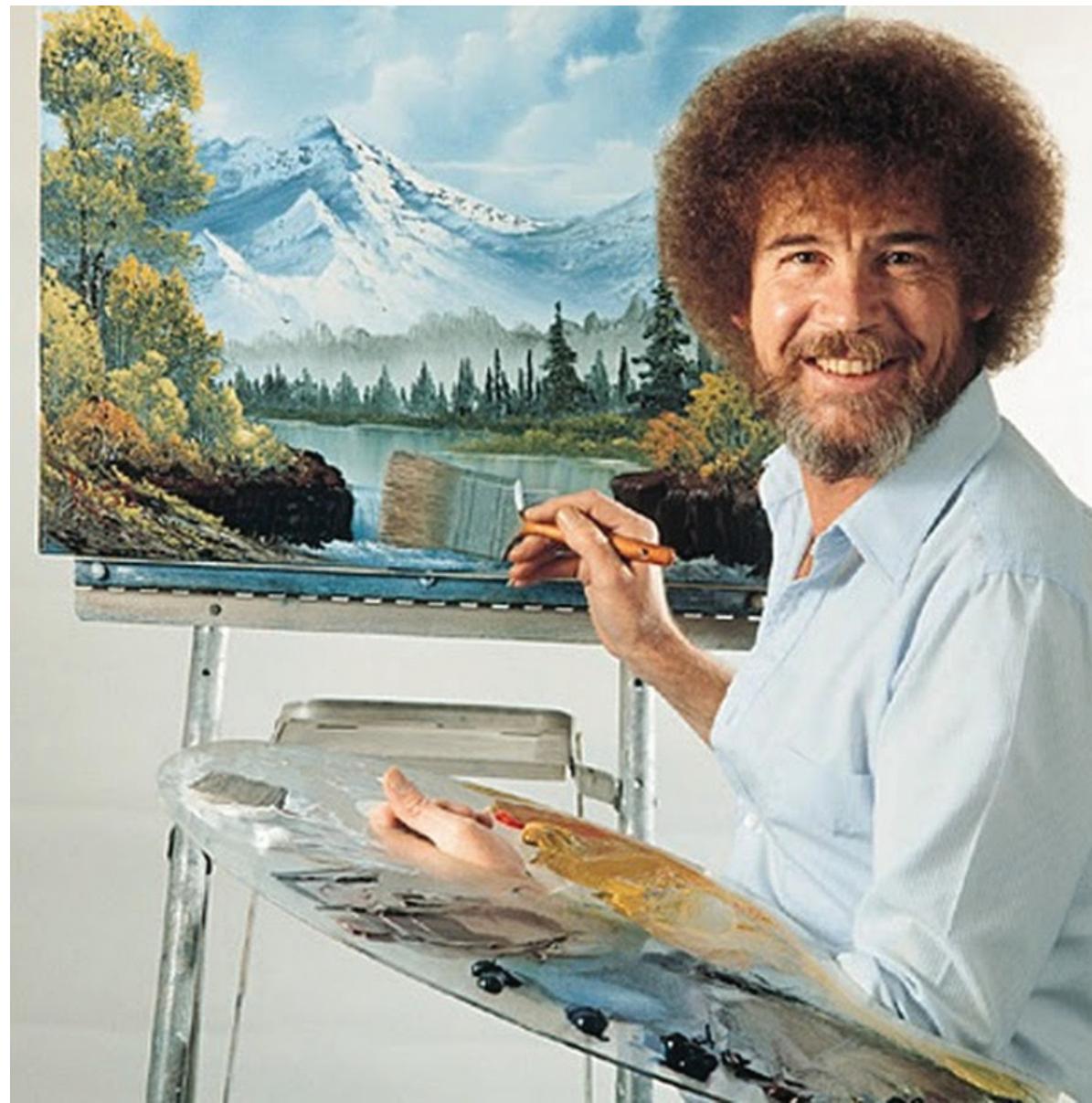
# Happy Accidents

# *Analyzing the paintings of Bob Ross*

Ally Warner

# *Jonathan Dunstan*

Alex Bigelow



A more interesting trend appears if we consider time; the pairwise Jaccard Similarities between seaons show that Bob began settling into a rhythm around season 9.

You can see below that while the paintings themselves are extremely diverse, he began to paint an ocean scene roughly once a season.