Project 1: The evolution of songs in 30 years
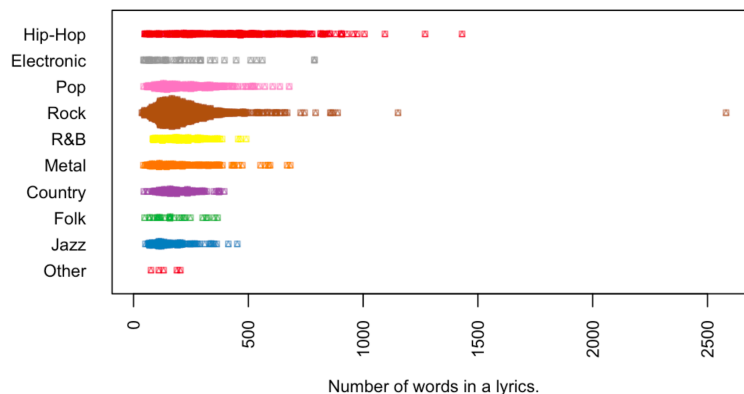Justine Zhang (UNI: yz3420)

Summary

In this project, I typically use the data of songs written in the 1990s and 2010s. By comparing genres, length of lyrics for different music genres and also the emotions artists want to express in these two periods, I obtain some useful insights into the evolution of songs in the past 30 years.

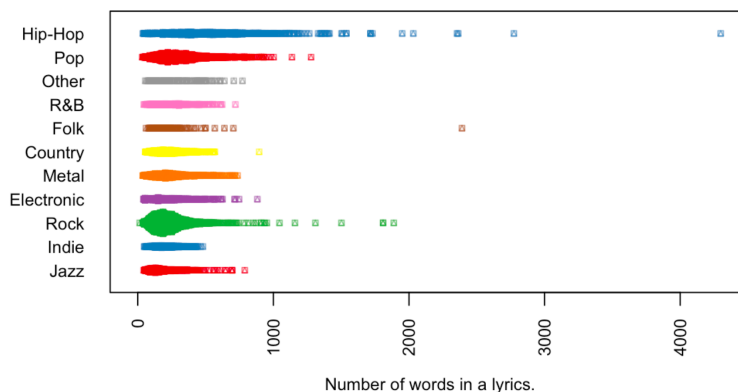**Part 1: Length of Lyrics for Different Types and Different Years**

Since the size of lyric data before 1990 is limited, I typically select songs written in the 1990s and 2010s for analysis. By comparing the lengths of lyrics for different genres in these 2 periods, we can obtain a basic insight into how the trend goes. I first create a new database for the year 1990s and plot the number of words in lyrics for different types in the 1990s.

Length of lyrics for different types in 1990s.

I then create a new database for year 2010s and plot the number of words in lyrics for different types in 2010s.

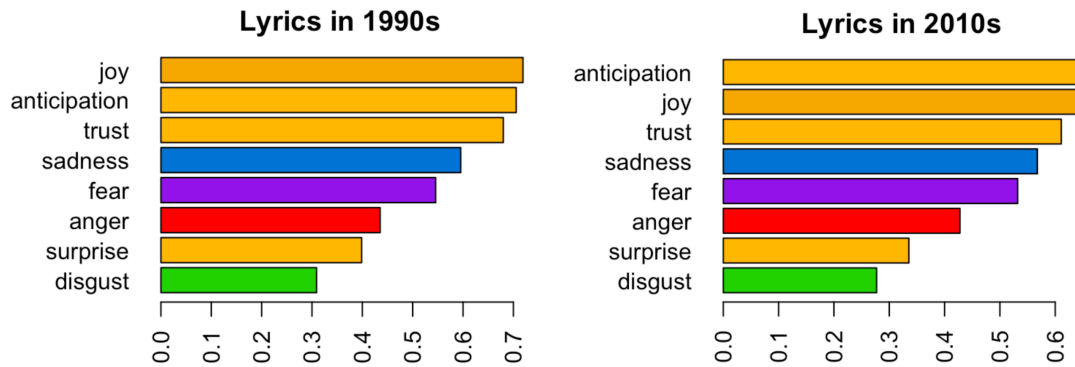**Length of lyrics for different types in 2010s.**

We can see in these 2 figures that the average lengths of lyrics increase for most genres from the 1990s to 2010s, where Hip-Hop increases the most and Mental increases the least. Also, we notice that

the lengths of rock music centralize around a small number, while other genres of music are more dispersed in length.

Part 2: Sentiment Analysis

How the emotions expressed by the songs have changed during these 30 years? In this part, I plot emotion distributions for different periods.
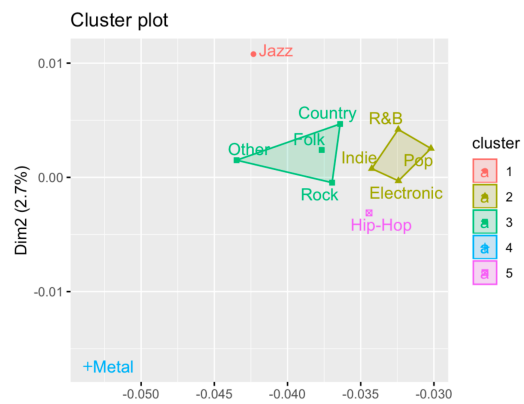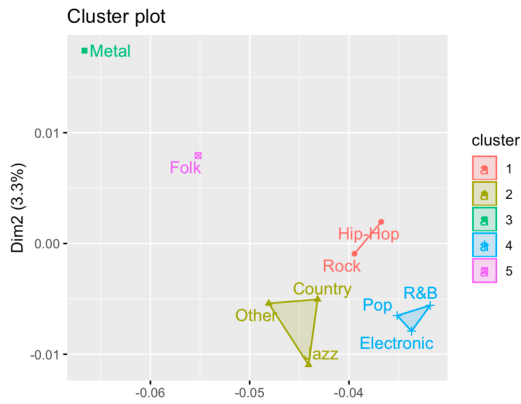

In the past 30 years, although the length and form of the songs have changed a lot, the core emotions they want to express have not changed. Most songs want to express our inner joy and anticipation.

In the next step, we will see which words appear most frequently to verify the positive emotions that songs always want to express. Here, I use the whole dataset from the 1990s to 2010s.

We can see that key words are love, baby, time and heart. It is interesting to note that people's pursuit of positive emotions is constant.

Part 3: Clustering of Emotions

the 1990s

the 2010s

The emotion expressed by metal music is distinct from other genres of music. We can check using word cloud and find that the most common words in mental music are "dark", "sad", "cry", etc., which are negative words while other music genres are more positive. Further, we notice that folk music was increasingly expressing positive emotions in 30 years.