Movie Genre Concentrations and Ratings over Time

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Dataset(s)

This presentation is based on an exploration of the **MovieLens Dataset**, consisting of movies from 1891 to 2015.

In addition to the 'movies.csv' file, the 'ratings.csv' file was used to study user ratings of those same movies.

Motivation

This study explores movie genre trends over time. In the context of culture and politics, movies represent something from the mindset of their time. How those same movies and genres are viewed many years later (i.e., at the time the MovieLens ratings were recorded) may offer insights into how we view our cultural history.

Research Question(s)

1. How has the popularity of genres evolved over time? More specifically, what are the changes in genre concentrations throughout the years?

2. Does genre popularity correlate to particular decades or identifiable cultural eras?

3. Do the the *quality* of movies of each genre (determined by user ratings) also display any trends throughout the years?
(e.g. Were there any stretches of years where comedies were more poorly-rated? Were Sci-Fi movies more highly acclaimed during any decade? What was happening in the world at that time that might have had an influence?)

Findings

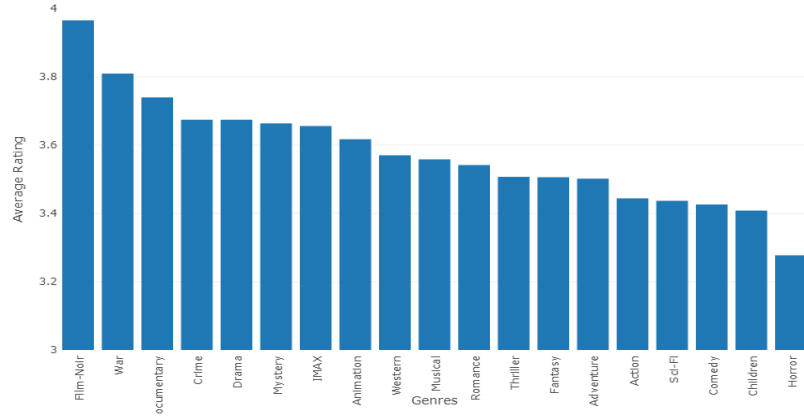Movie Genre Hits per Year

Movie Genre Hits Composition per Year
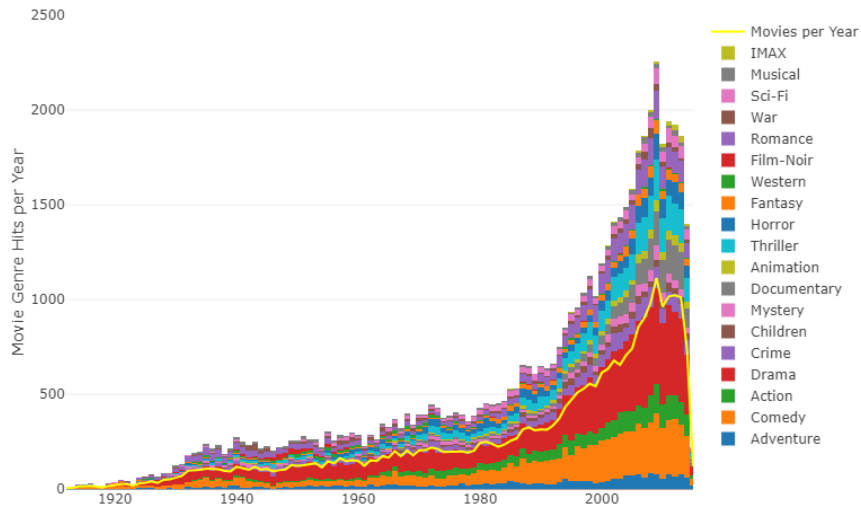
Movie genre occurrences show a clear increase in movies over time, especially since the 1980s. They also demonstrate how movies are most often tagged with multiple genres, as shown above.
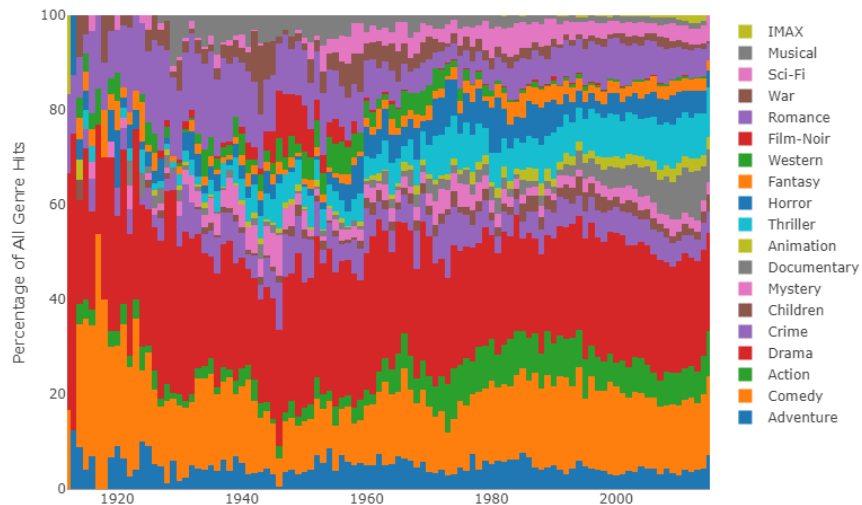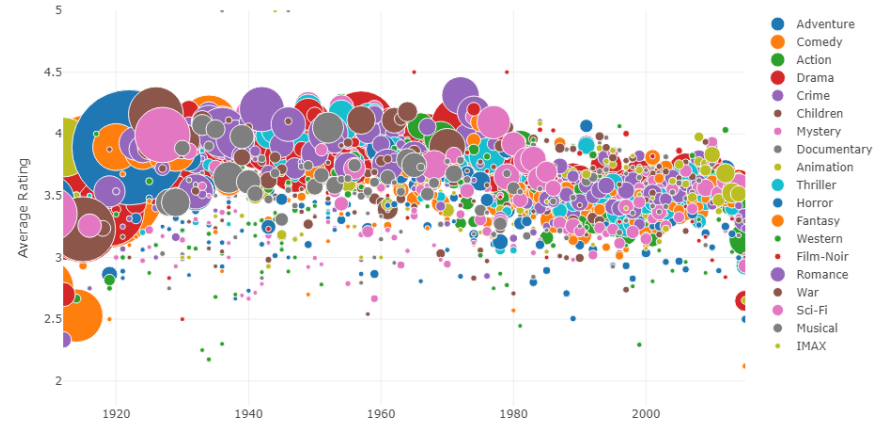
Movie genre occurrences normalized as a percentage of each year show growing and declining popularity for some genres (e.g. the concentration of **Documentaries** has steadily increased since ~1990).

Findings

Dot size is a function of the number of occurrences of a genre to all genre occurrences in a particular year

Composited across all years, all genres have average ratings between 3 and 4 (out of 5). **Film-Noir** movies are typically rated the highest (3.9), while **Horror** movies the lowest (3.2).

Holistically across all genres, movie ratings show a decline from the early 1970s to the 1990s.

Findings

Adventure | Action

Film-Noir | Western | IMAX
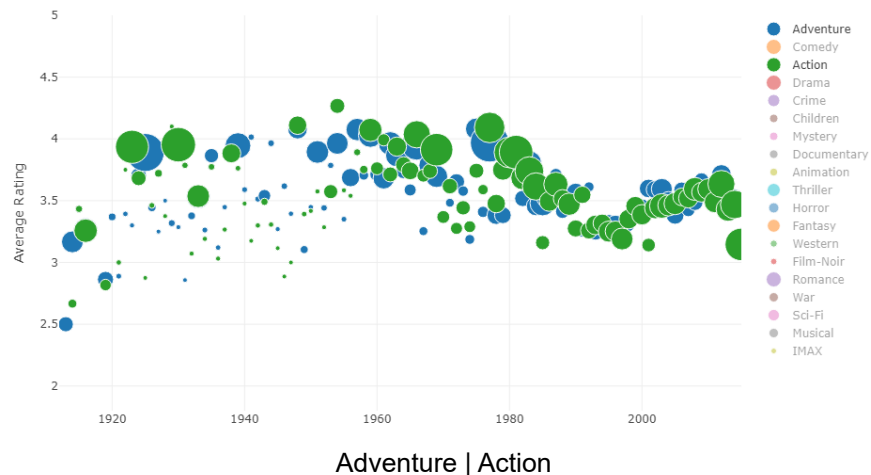
Adventure and **Action** genre movies appear to have strong correlations, both in average rating and yearly genre concentration.
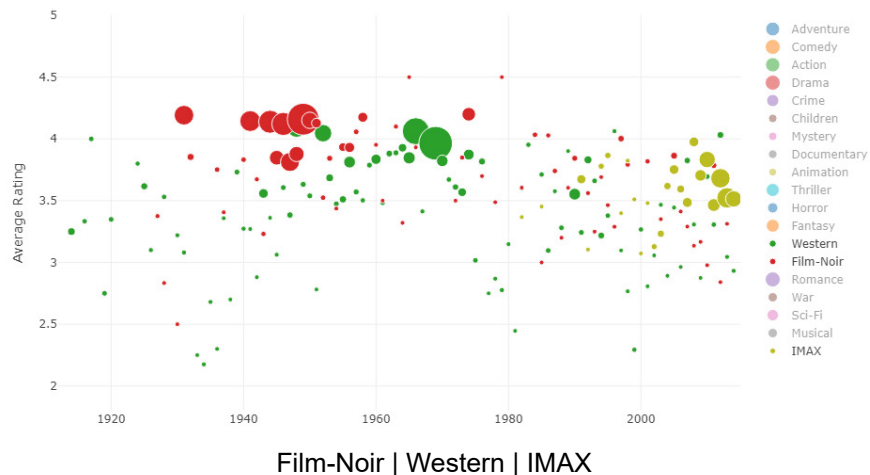
Film-Noir (red)**, Western** (green), and **IMAX** (yellow) genre movies appear to have strong concentrations of popularity during specific decades.
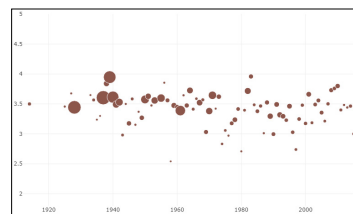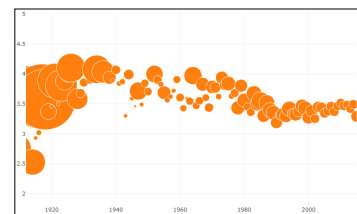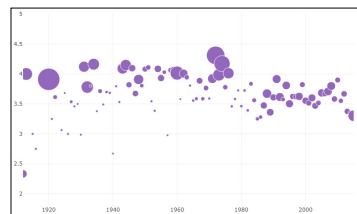
individual
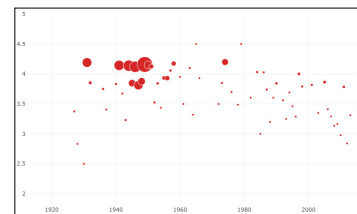genre rating &
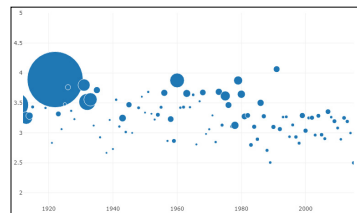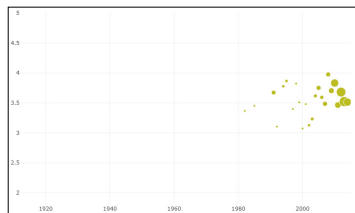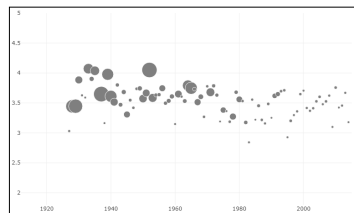concentration
profiles
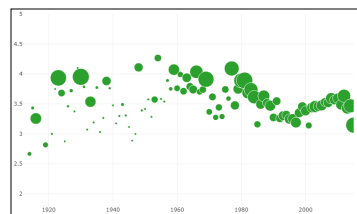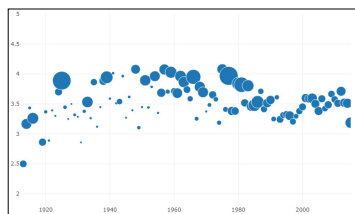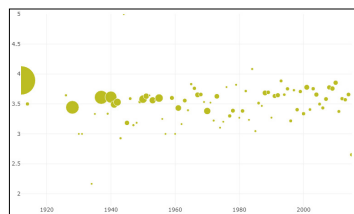
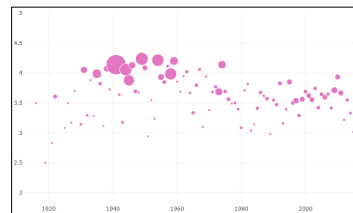Action　Adventure　Animation　Children　Comedy
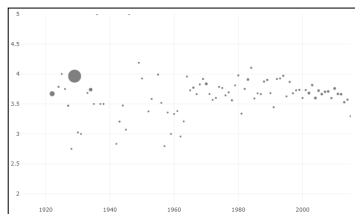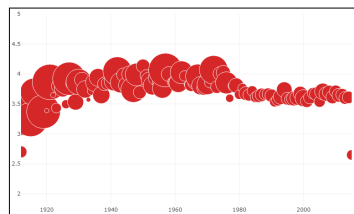
Crime　Documentary　Drama　Fantasy　Film-Noir
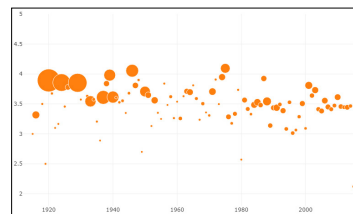
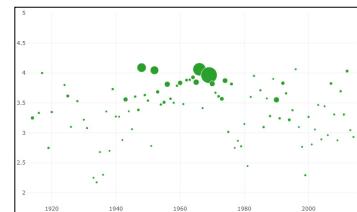Horror　IMAX　Musical　Mystery　Romance
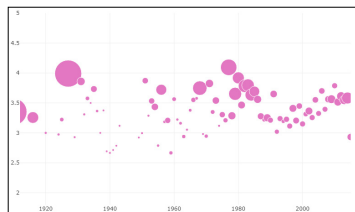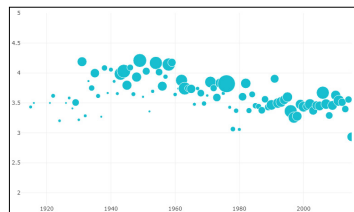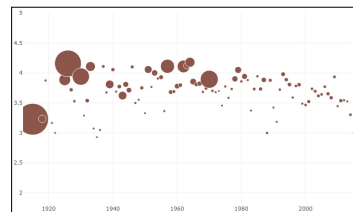
Sci-Fi　Thriller　War　Western

Conclusions

1. The fact that movies in the MovieLens database were often tagged with multiple genres made the analysis less straightforward; however we can still make some inferences about the concentration of genres throughout the years.

2. While there were general trends in movie genre ratings over time, there were many distinct rating/concentration profiles seen across genres, which show genres on the rise and in decline, and those concentrated within historical eras.

Acknowledgements

References

Only data from the MovieLens datasets were used in the preparation of this study. No additional outside references were used.