A Symphony of Culture, Technology, and War: Tracing a Century of Global Music Evolution

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Abstract

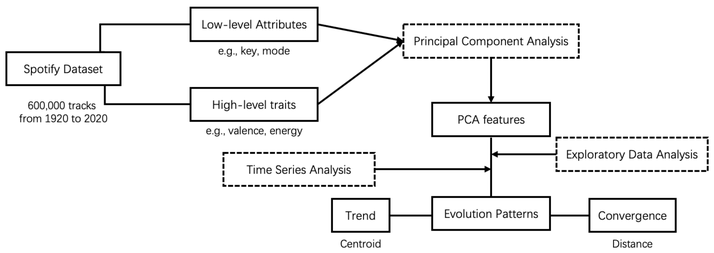
Over the past century, global music has been evolving under the background of cultural, technological, and political transformations.

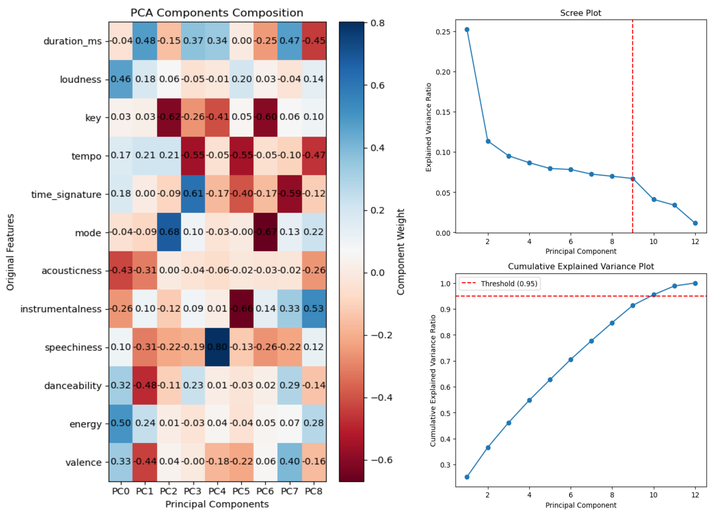
This study explores the patterns of music evolution from 1920 to 2020, with a focus on two key aspects: trend and convergence. Based on a Spotify dataset with 600,000 tracks, using principal component analysis and time series analysis, we examine the temporal shifts in music features, such as tempo, energy, and valence.

Consistent with theoretical predictions of cultural evolution (Youngblood et al., 2023), our results reveal an overall convergence of music towards the vibrant genre, characterized by features such as higher energy and danceability. However, this trend experienced notable reversals during wartime, while the rise of streaming platforms has accelerated homogenization of music.

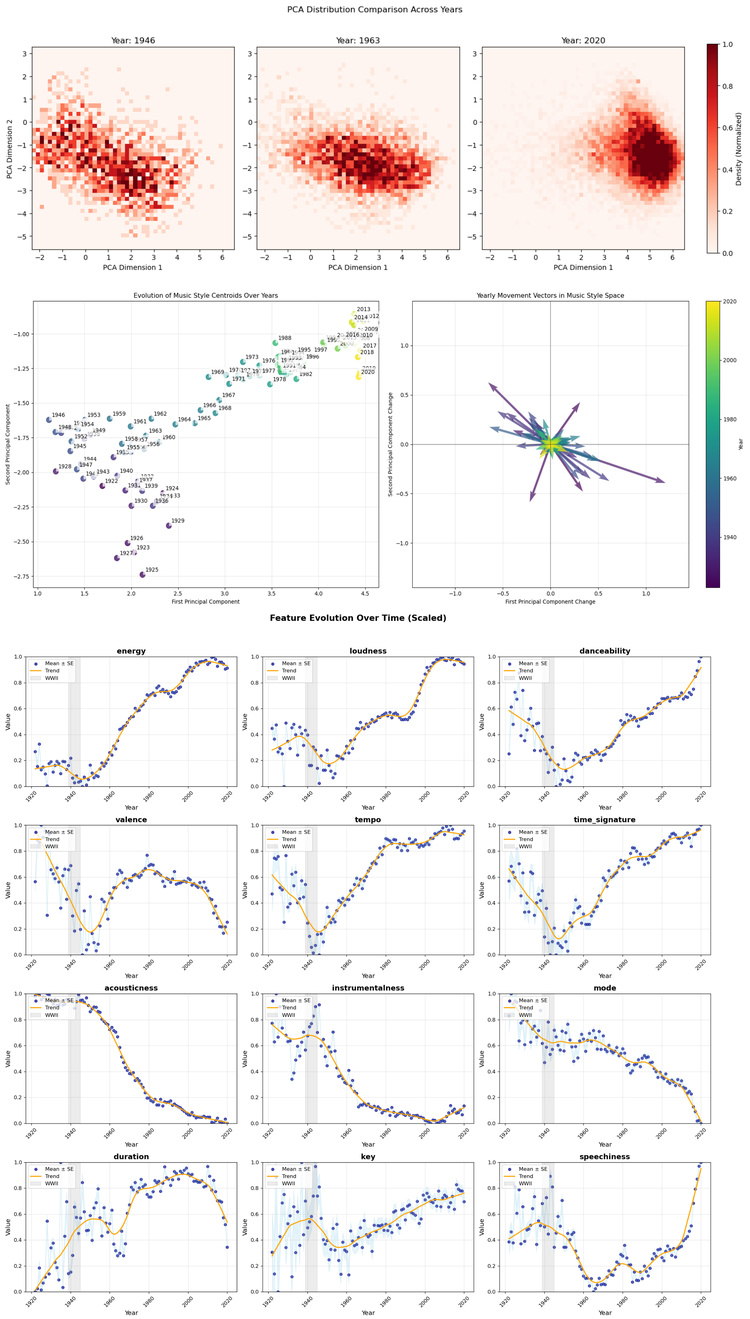
These findings highlight the intricate interactions between music, technology, and political events, contributing to a deeper understanding of the adaptive progression of global music.

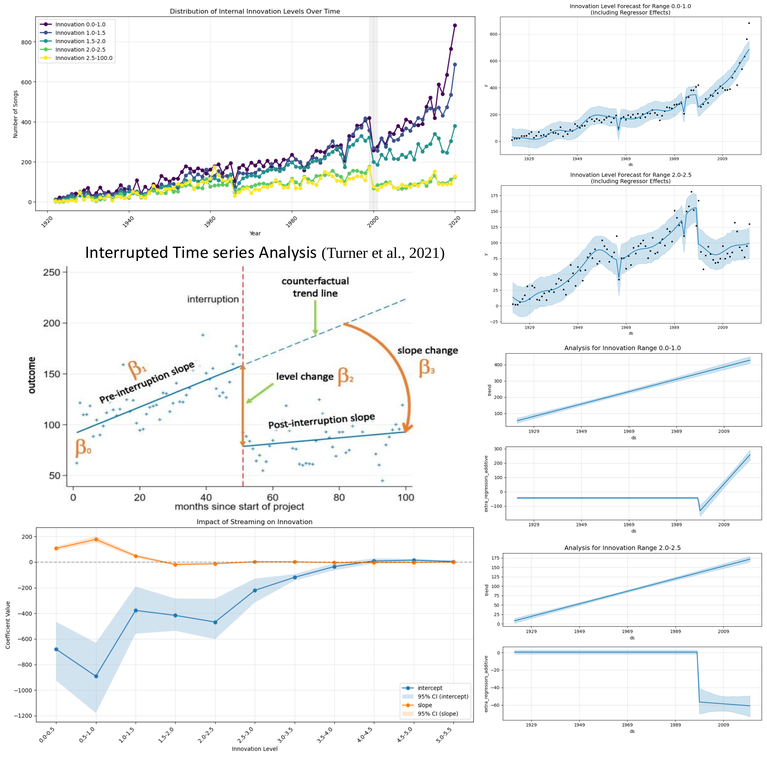
Methods





Results





Conclusions

Our research findings indicate that, as predicted by the theory of cultural evolution, overall, global music has shown a growing convergence and a trend towards vibrant genre, characterized by features like higher energy level.

However, during the war period, this trend experienced a reverse setback; while technological transitions, such as the emergence of streaming media, has accelerated the process of convergence.

These findings indicate that the evolution of cultural objects, such as music, is not an isolated process, but more likely a reflection of technological and political background, demonstrating the interplaying relationship between cultural concepts and the external world.

Reference

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Youngblood, M., Ozaki, Y., & Savage, P. E. (2023). Cultural evolution and music.

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