Modeling cultural globalization on music streaming platforms

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TL;DR: Many global hits on Spotify reach many countries extremely quickly, but others take much longer, suggesting different underlying diffusion processes.

Abstract: Competing theories of cultural globalization include accounts that emphasize centralizing homogenization (e.g. 'McDonalds-ization') and alternative frameworks that highlight the persistence of global cultural heterogeneity. One arena for studying these processes is global music consumption, a domain substantially affected by the rise of music streaming platforms. We study the globalization of cultural objects (songs) by modeling the diffusion trajectory of songs across countries using daily top 200 rankings from Spotify, the most popular streaming platform. Previous research on diffusion processes distinguishes between internal or or endogenous diffusion processes driven by information transmission through networks, and external or exogenous processes driven by information broadcast on centralized, widely available media. The former process implies an S-shaped logistic functional form of the diffusion curve, while the latter implies a negative exponential functional form. We model diffusion trajectories for individual songs, showing a wide variety of trajectories. A substantial portion songs reaching more than one country achieve their maximum global reach extremely rapidly, often within a few days. This diffusion trajectory can only be explained as a result of strong, centralized coordinating forces synchronizing the music consumption choices of millions of users around the world: for example, recommendation algorithms, playlists, social media campaigns, or traditional marketing campaigns. A second subset of songs follows the more gradual, S-shaped diffusion curve, usually achieving a smaller global reach. These results highlight the simultaneous relevance of both homogenizing forces and persistent heterogeneity. Further analysis incorporates song genre and artists' home market as predictors of the shape of diffusion curves.

Global Diffusion of Songs on Spotify

Modelled growth trajectories for a sample of 100 songs that reached the top 100 in more than 20 countries

Plot by Aybuke Atalay and Tod Van Gunten