

Abstract

Music is a universal language, present in all human societies. But the traditional dialects of music vary from culture to culture; this great diversity in historical music has often been attributed to societal and linguistic differences. While it is likely that these differences strongly influenced the development of music, I propose that music has also been morphed by its physical environment. I hypothesize that there may be strong links between the environmental and geographical attributes of the location of origin and major sonic characteristics. Specifically, I will investigate the average fundamental frequency, contour, dynamic range, timbre, and rhythm of pieces of traditional music from around the globe to create a musical fingerprint. Using these metrics, I plan to sort the musical data into phylosonic trees with an attached geographical stamp (longitude, latitude, average precipitation, average temperature, temperature range, etc). I hope to be able to trace the development of musical traits to specific features of location. The Santa Fe Institute project will be focused on developing the statistical methods that will allow me to tease apart the confounding factor of common origins and music contacts from the environmental influences that I am interested in.