



# Evolution of The Informational Complexity of Contemporary Western Music

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**Complexity :**

**Pitch**

**Loudness**

**Timber**

**Rhythm**




*As fads come and go, is there still a consistent preference towards the optimal amount of complexity in cultural products?*

*How has the complexity of contemporary cultural products changed over time?*

*How do we measure complexity?*

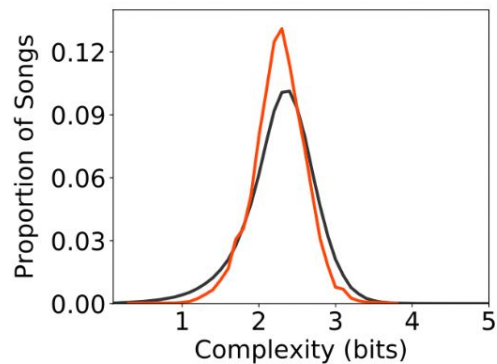


# Codewords

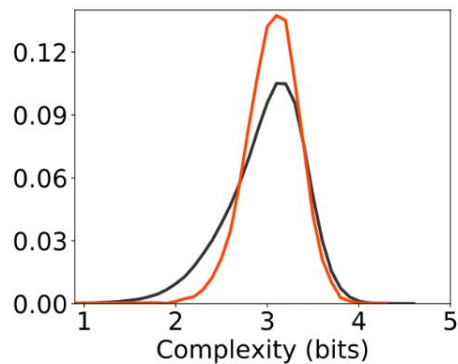

$$\begin{aligned} H(Y|X) &= \sum_{x \in X} p(x) H(Y|X = x) = \\ &= \sum_{x \in X} p(x) \sum_{y \in Y} p(y|x) \log_2 p(y|x) \end{aligned}$$



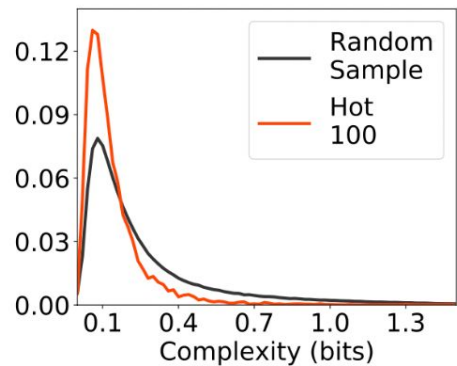
Pitch



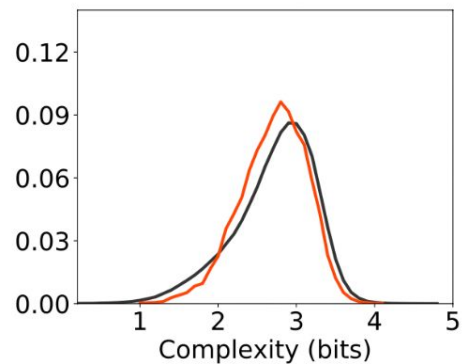
Loudness

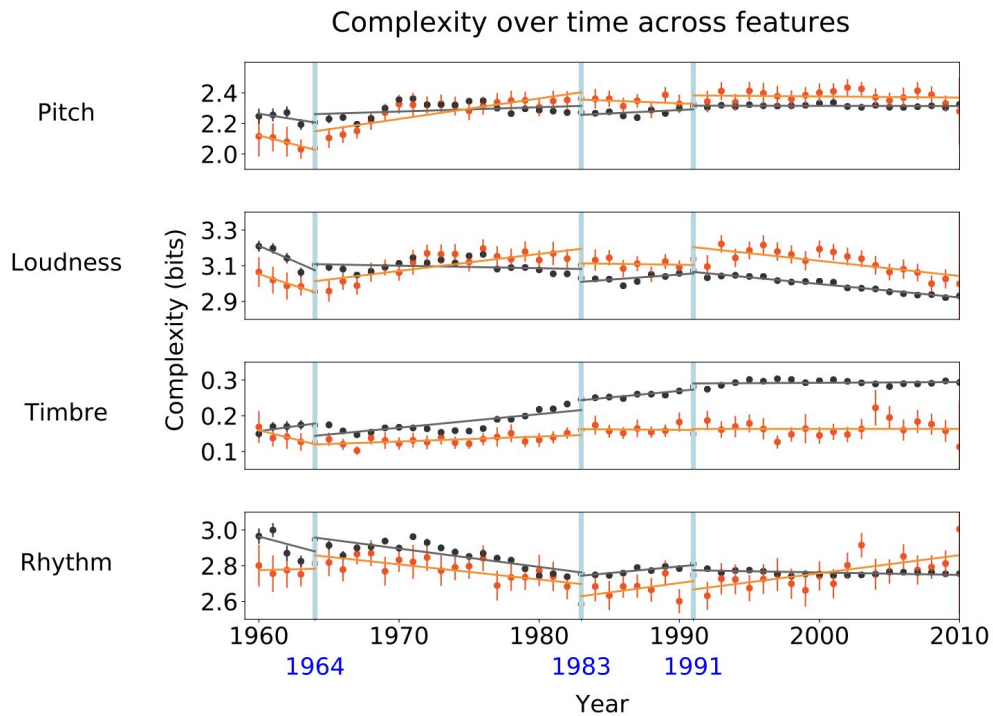


Timbre



Rhythm





• All Songs • Hot 100 — All Songs best fit — Hot 100 best fit



**Thanks for paying attention**