Creativity and Popularity of Fanfictions in Fandoms

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Many creative cultural products in human history are centered around a common topic and developed into different versions, for example, myths and folktales in ancient oral traditions. In the contemporary pop culture, this tradition is sometimes found in a new form — fanfictions, creative works made by fans based on existing original works. Emerging in the 1970s, this subculture has gained attention in cultural studies and gender studies, but few quantitative analysis has been carried out on the abundant data.

Here we analyze data from the website Archive of Our Own (AO3) to study the relationship between popularity and creativity of fanfictions in a fandom (a community consisting of fanfiction authors and readers). By training a unigram model on the fanfictions texts and use the Kullback-Leibler divergence to evaluate the distance between texts, we construct a "typical" fiction in a certain time period and comparing other fictions to it. We show that the fictions that are more different from the typical fiction receive more kudos, in other words, higher creativity of a fanfiction is an indicator of its higher popularity. This result reveals a relationship between creativity and acceptance of audience, which may be extended to other creative works.
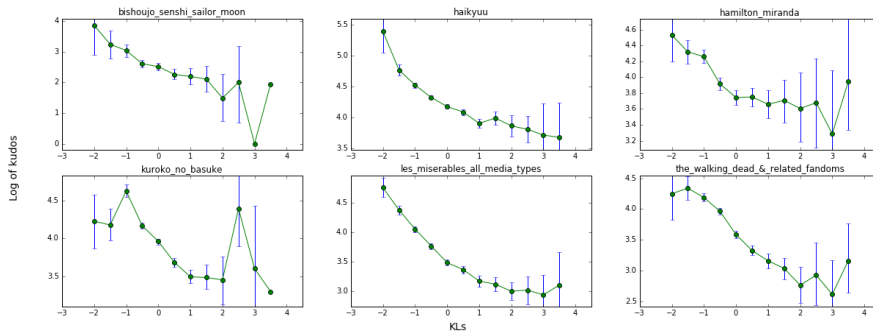

Figure 1: Relation between fictions' Kullback-Leibler divergence to the typical fictions and their Kudos in 6 fandoms. The KL divergence are normalized into z-scores; the Kudos are log-transformed.