

### Dave Kale

#### A Computational Analysis of Topic and Tone in Tolkien and Rowling

One exciting trend in humanities research is the use of computational methods from natural language processing. Such tools offer new ways to explore texts, discover patterns, and derive insights. One such tool is topic modeling, which assumes a probabilistic model from which a document collection is “generated.” In this framework, a “topic” is a probability distribution over words from a fixed vocabulary, and differences in topic manifest as different patterns in word co-occurrence. In this paper, I will give a brief overview of topic models and present results from applying them in two case studies: J.R.R. Tolkien’s *The Hobbit* and J.K. Rowling’s *Harry Potter* series. In each, we see an evolution in theme and tone. I will investigate whether topic models can detect these evolutions and compare my findings to traditional analyses. Finally, I will offer commentary on the potential and limitations of modern computational tools for enriching humanities research.

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