

Finding Preferred Metric Patterns in Literature Using Markov Chain Model

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Abstract

In this study, I tried to determine which metric patterns occur more often in literature than would be expected, if hard and soft syllables occurred randomly according to a Markov Chain model. I also wanted to see whether Pulitzer Prize-winning novels contained more instances of poetic metric patterns than did amateur novels.

Metric poetry follows a pattern. Some example patterns are given below (“1” denotes a soft syllable; “3” denotes a hard syllable).

1313131313 ... iambic pentameter

13131313 ... iambic tetrameter

313131313131 ... trochaic hexameter

31313131 ... trochaic tetrameter (One fish, two fish, red fish, blue fish)

113113113... amapestic dimeter

3113131313 ... iambic pentameter with an initial trochaic substitution

Prose, by definition, does not follow a strict metric pattern. However, I hypothesized that because metric patterns have a pleasing sound, fragments of poetic meters would occur more often than expected in quality literature (given a Markov Chain model). Indeed, many renowned authors are suspected to have paid attention to the rhythm of their prose, including Chaucer (Schulach, 1950), William Carlos Williams (Bremen, 1996), and obviously, Shakespeare (Wright, 1992).