SPARSAR: a System for Poetry Automatic Rhythm and Style AnalyzeR

Rodolfo Delmonte, Ciprian Bacalu

Department of Language Studies and Comparative Cultures
Ca’ Foscari University of Venice – DD. 1075 30123 Venice - Italy
delmont@unive.it

Abstract

Any poem can be characterized by its rhythm which is also revealing of the poet's peculiar style. In turn, the poem's rhythm is based mainly on two elements: meter, that is distribution of stressed and unstressed syllables in the verse, presence of rhyming and other poetic devices like alliteration, assonance, consonance, enjambements, etc. which contribute to poetic form at stanza level. Traditionally, poetic meter is visualized by a sequence of signs, typically a straight line is used to indicate vowels of stressed syllables and a half circle is positioned on vowels of unstressed ones. The sequence of these sings makes up the foot and depending on number of feet one can speak of iambic, trochaic, anapestic, dactylic, etc. poetic style.

English poetry has been for centuries characterized by iambic pentameter, that is a sequence of five feet made of a couple of unstressed + stressed syllables. Modern English poetry on the contrary – after G.M.Hopkins – has adopted a variety of stanza schemes.

A poetic foot can be marked by a numerical sequence as for instance in [4] [5] who uses “0” for unstressed and “1” for stressed syllables to feed a connectionist model of poetic meter from a manually transcribed corpus. There he also tries to state the view that poets are characterized by their typical meter and rhythm, which work as their fingerprint. We also agree with this view, however, we would like to be more specific on the notion of rhythm that we intend to purport. We do that in two ways: by considering stanzas as structural units in which rhyming – if existent - plays an essential role. Secondly and foremost, in our view, a prosodic acoustic view needs to be implemented as well, if any precise definition of rhythm and style is the goal. Syllables are not just any combination of sounds, and their internal structure is fundamental to the nature of the poetic rhythm that will ensue. This is partly amenable to the use and exploitation of poetic devices, which we also intend to highlight in our system. But what is paramount in our description of rhythm, is the use of the acoustic parameter of duration. The use of duration will allow our system to produce a model of a poetry reader that the use of rhythmic and stylistic features in a highly revelatory manner, by comparing metrical similar poems of the same poet and of different poets. The importance of metrical structure and of poetic rhyming devices is evaluated and also compared.

References


