# Connecting microscopic and macroscopic representations of literary and musical pieces

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Human communication in literature and music is characterized by the use of well-defined elements as words and musical notes in order to convey rich information as emotions and meaning. Authors and composers have to select and to organize these elements following formal rules, as those of grammar, as well as their own creativity. George Kingsley Zipf found that the use of words in literature and of notes in music can be associated to a principle of least effort in human behavior, here we show that the use of linguistic categories in literature and consonance in music for describing the composition and organization of texts and melodies can be interpreted in the framework of statistical mechanics. Specifically, we develop a model for analyzing sets of texts in literature, leading to the differentiation of literary styles, and we use the concept of entropy in order to study the use of consonance in melodic line. The relevance of this work is twofold: In one hand it allows to represent literary and musical pieces (mainly melodic lines) using simple statistical models, and in the other hand it gives the possibility of relating both literary and musical theory concepts with statistical properties of pieces.