

We are submitting the manuscript titled "*A quantitative approach to painting styles*", by Vilson Vieira, Renato Fabbri, David Sbrissa, Luciano da Fontoura Costa and Gonzalo Travieso, which is being submitted for possible publication in the highly regarded *Physica A: Statistical Mechanics and its Applications*.

This study applied statistical mechanics methods to the characterization and analysis of painters and painting styles, implying broad general interest. Qualitative philosophical concepts like dialectics, innovation and opposition were modeled as quantitative metrics and applied to the analysis of the painters time series, revealing interesting interpretations.

Several interesting findings are reported in this manuscript, including:

- the identification of clusters associated to the main painters/styles, including wider dispersion of characteristics in the case of more modern pieces while superposition of baroque paintings;
- those conclusions confirm Art History where modern painters presents independence in style while Baroque painters share techniques (e.g. "chiaroscuro" technique by Caravaggio is clearly noticed on both Velázquez and Vermeer paintings and confirmed by the statistical analysis developed in this study);
- when compared with a previous study performed by the authors [*arxiv:1403.4513, arxiv:1109.4653*] for Music and Philosophy, Painting shows increasing innovation and high opposition and dialectics in the transition between Baroque and Modern Art, while Music seems guided by dialectics and Philosophy, by opposition. Both interpretations confirm qualitative facts from Art History.

All authors have agreed with the present submitted version.

Yours sincerely, the authors.