The 20th century is often described as the century of physics. In truth, the human society today would be significantly different were it not for the fundamental research breakthroughs in physics labs all over the world [1, 2]. What the past hundred years meant for physics, the past thousand years meant for art paintings. The last millennium saw the rise of some of the most prolific art periods in human existence, from the Byzantine art and Renaissance to Realism and Pop art. Mass digitalization of art paintings to day enables us to perform a precise quantitative analysis of the history of art paintings on a very large temporal and spatial scale. I will present a study [3], in which we analysed more than 140,000 paintings created by more than 2,300 artists between 1031 and 2016. Based on the complexity and entropy of spatial patterns in the paintings we managed to hierarchically categorize the paintings in a two-dimensional space of order-disorder and simplicity-complexity (see figure bellow), revealing the temporal development of the history of art paintings, which corresponds to the most important art periods of the last millennium. The study indicates the next step in the analysis of mass databases where we are moving away from textual semantics [4] and closer to the quantification of subjective properties of works, such as aesthetics and appeal.

References
Different art styles in the space of complexity (C) and entropy (H). The coloured circles represent the average values of H and C for all 41 styles with more than 500 artworks in our database.