

## **Visual complexity and beauty**

Marcos Nadal & Enric Munar

*Human Evolution and Cognition. Associated group to IFISC (UIB-CSIC)*

The influence of complexity on aesthetic preference and the appreciation of beauty has been noted since Classical Antiquity. However, the scientific formulation of this influence dates to the late nineteenth and early twentieth centuries, with the birth of empirical aesthetics. Although the influence of complexity on the appreciation of beauty became pivotal in Daniel Berlyne's Psychobiological Aesthetics framework, empirical studies attempting to determine the nature of this relation have produced divergent results. Whereas in some instances the inverted-u function posited by Berlyne was found, in many other cases an ascending or descending linear relation resulted from the experiments. We will argue here that this discrepancy owes to differences in the way the concept of complexity has been defined and operationalized. Based on the notion that there are several different aspects of complexity, one related with the amount of elements in the stimulus, another with the organization of those elements, and another with symmetry, we obtained curve fit measurements for ratings of 60 images on a beauty scale and three complexity factors (amount of elements, organization, and symmetry). Results showed that these different forms of complexity had different effects on the appreciation of beauty. Whereas rated beauty increases linearly with the amount of elements, it had a u-shaped relation with organization, and an inverted-u relation with symmetry. We conclude from these results that a general concept, one that does not distinguish among these three aspects, is unsuited for studying the effects of visual complexity on people's appreciation of beauty.