Part I of this book focuses on the generation of synthetic artwork using filtering or other low-level image analysis. In many cases, artistic renderings are produced by placing a multitude of small marks (hatches, stipples, painterly brush strokes) on a virtual canvas. The placement of the marks reacts to the image content via heuristics that seek to emulate the placement of marks by a human artist. In other cases, morphological or anisotropic filtering operators perform edge-preserving simplification of the image to create a stylized appearance.

Stroke based painterly rendering of Annecy, France; regular venue of the ACM/Eurographics Symposium on Non-photorealistic Animation and Rendering (NPAR). Produced using the genetic algorithm described in Sect. 1.3.2