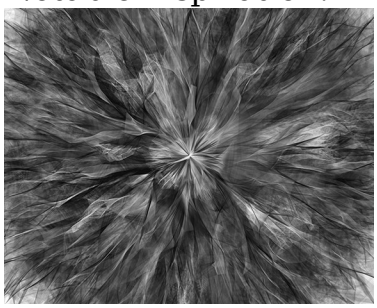
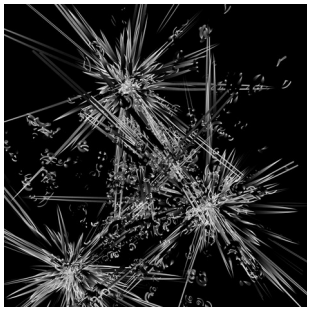
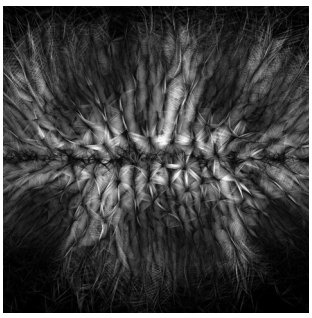
3D Reas' Process Visualization

The idea involves extending Casey Reas' Elements to 3D. In this case, the technique will no longer be based on not clearing the color buffer but rather utilize hardware instancing. The effect will allow the viewer to rotate and observe the evolving shape composed of a large number of Reas' Elements.

Inspiration gallery: [reas.com]

Notable inspiration:

Design breakdown:

- Design the evolution logic based on description of Reas' Element
- Let Element be a simple form to be instantiated a large number of times
- Two types of Elements: live and stagnant
- Begin with a certain amount of live Elements
- At any tick a number of live Elements are drawn accordingly with the evolution logic
- At any tick that follows, all Elements that were live become stagnant, all stagnant Elements remain stagnant, a number (the same as initial) of new live Elements are created (in accord with previous point)
- The Elements will be form a shape that can be observed from any point with fixed distance away from the shape origin
- The shape and it's growth will be constrained by a cube or a sphere of predefined size

Target platform requirements:

- support for fairly modern (3.3+) OpenGL