

Review of: "The Texture of Reality: Patterns and Symphonies"

John Graham¹

¹ Berry College

Potential competing interests: No potential competing interests to declare.

The authors attempt to do what is nearly impossible in words—describing the structure of reality as a universe of fractals and vibrations, manifest via the examples of Koch snowflakes, Mandelbrot sets, Lorenz attractors, and Chladni vibrational patterns. The main difficulty lies in building an argument with abstract concepts rather than concrete words.

Abstraction may work in mathematics, but in language it allows for too much flexibility and uncertainty. Consciousness and beauty are abstract concepts whose meaning is hard to pin down, while red and boson are concrete ones that can be readily defined. It is extremely difficult to construct an argument using just verbal abstractions, which is what we have here.

Are the scales continuous or discontinuous? The authors suggest macro-, micro-, and in-between scales, and one might expect a continuum of in-betweenness, but experience suggests that the scaling is in part incremental. I would add a paragraph on the various scales: subatomic, atomic, molecular, ... solar systems, galaxies, etc.

Please be aware that fractals in nature are random fractals and are often limited in extent. The Mandelbrot fractal extends into infinity but fractal trees and rivers, for example, only extend into a few layers. Fractal patterns in nature break down at the cellular and molecular levels and become something else—one fractal grading into a different fractal.

The main metaphor in this paper is the word symphony. As a musician, the word “symphony” implies an organization of several parts. In an orchestra, there is a composer and a score. A conductor interprets and directs the musicians, all taking part in a complex set of visual and aural feedbacks. Please make clear how this metaphor applies to the universe of scales? Is there a score? A conductor? Clearly not. Or are there just interacting parts and feedbacks, much like one of Ornette Coleman’s Free Jazz ensembles?

In Figure 2, the snowflake is an actual snowflake, not a Koch snowflake. Please make that clear. I think you need to include a Koch snowflake next to the actual snowflake, and show how the triangle can be developed into a Koch snowflake via a repeated process. In addition, unless you have drawn or developed the figures yourself, the sources need to be cited and/or permissions gotten to reproduce them.

There needs to be some attention to spelling, grammar, and (especially) style. Abstraction is necessary but many of the terms here need to be defined in concrete terms if possible. What, for example, do you mean by a symphony? Defining texture, reality, pattern, and symphony up front will help. Otherwise every reader will pull up a different interpretation.