



TEXAS TECH UNIVERSITY

Department of English™

Reviewer: Bruce Clarke  
Paul Whitfield Horn Professor of Literature and Science  
2019 NASA/Blumberg Library of Congress Chair in Astrobiology

GAIA 5.0 — A five-dimensional geometry for the 3D visualization of Earth' climate complexity

### General comments

Taken together, “Gaia 5.0” the artwork and the scholarly article combine to form a massively synthetic project for the re-convergence of art and philosophy with science and mathematics. “Gaia 5.0” marshals the historical discourse of higher-dimensional math and physics to the visualization of a living planet captured by the cosmic vibrations of primeval geometrical patterns. This is inspired work built upon deep developments in Western thought. It is argued that Platonic-Pythagorean hyper-geometries bring out a kind of living depth appreciated by Kepler but missed by the Aristotelian tradition as it passes from Newton to Einstein. This shift restores the luminiferous aether discarded by Einstein by reviving its relevance for hyperspace descriptions. “Gaia 5.0” directs this research not at an abstract mapping of 4-dimensional space-time but directly toward a 5-dimensional moving image filling out the dynamical substance of Gaia itself—Earth’s biosphere caught up in the formative play of geometric and physical forces.

### Specific comments

I would have liked to see some commentary provided on the following provocative and scientifically promising statement: “By displaying the dynamics of the atmosphere connected with the cooling of the oceanic water the question arises whether the Earth is deliberately producing cyclones as mechanism for cooling oceanic water systems” (ll.201-3). This suggestion about Earth in a period of global heating *using an increase in hurricanes to cool itself*—an approach underscored by Lovelock’s longtime insistence that “Gaia likes it cool”—is precisely what was implied when the authors characterized Margulis’s autopoietic Gaia as a “cognitive system.” Is there a way to connect Gaia’s planetary cognition more tightly to the 5-D framework of the discussion?

### Technical corrections

The vigor of the presentation is commendable, but the quality of the English in this article needs improvement at the level of grammatical correctness.

l.72: “oncologic“ should be “ontologic”

l.386: “angels” should be “angles”

Sagan 2020 is missing from the references.