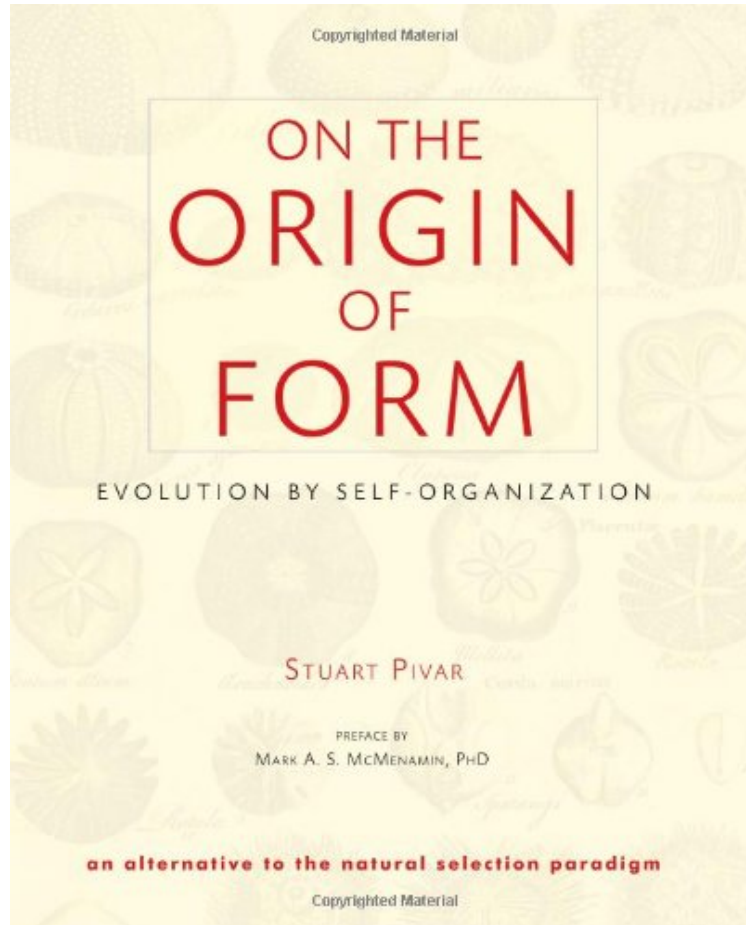


(Read download) On the Origin of Form: Evolution by Self-Organization

On the Origin of Form: Evolution by Self-Organization

Stuart Pivar

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#2697917 in Books North Atlantic Books 2009-07-28 2009-07-28 Original language: English PDF # 1 9.90 x .57 x 8.00l, 1.10 #File Name: 1556438869208 pages | File size: 72.Mb

Stuart Pivar : On the Origin of Form: Evolution by Self-Organization before purchasing it in order to gage whether or not it would be worth my time, and all praised On the Origin of Form: Evolution by Self-Organization:

0 of 1 people found the following review helpful. Eye opening view of embryology and form. I do ...By Perry Marshall Eye opening view of embryology and form. I do understand that some aspects of this book are now out of date; and I don't agree with everything (I think the book gives too little credit to the genome for influencing form, for example) but this was very thought provoking. 14 of 24 people found the following review helpful. Pseudoscience By S. McMEnamin As a developmental biologist, I doubt that Mr. Pivar has ever seriously looked at a developing embryo. He instead has drawn and described what he thinks embryos ought to look like, and it turns out that he's profoundly (often laughably) wrong about a lot. Just to illustrate, anyone with the most basic familiarity with embryology knows very well that this is not how limbs form: [...] You don't even need a microscope and an embryo to flagrantly disprove the content of these images: just google "limb bud" and glance at the pictures. Pivar has a few intriguing ideas, and I certainly support his emphasis on the importance of morphogenetic fields. However, science needs to be based on

observation and critical discussion, not merely speculation. 9 of 23 people found the following review helpful. Enigmas of self-organization

By John C. Landon

At a time when Neo-Darwinism is undergoing considerable challenge from multiple brands of critics, the whole conventional paradigm is starting to unravel. The students of self-organization (manifested in the recent Altenberg 16 conference on evolution) are quietly producing a set of insights into the dynamics of evolution beyond the conventional selectionist scenarios (or for that matter intelligent design claims). While it would seem that self-organization is still not the complete answer to the intractable enigma of evolutionary emergence, it is nonetheless a crucial component of any future theory. The moral of the tale is that evolution is a lot more complex than we realize and won't yield to oversimplifications or the regime of scientism. A number of self-organization perspectives are emerging, from Stuart Kauffman's notions of the origin of order (and order for free) to Stuart Newman's dynamics of self-organizing entities beyond the chemical substrate. Pivar's book on self-organization is filled with a smorgasbord of topics, in a charming take on a kind of Goethean insight into the Ur-plant, and proposes the stunningly apt idea that organismic shapes reflect the topology of the torus. Bon idee! The text's many diagrams nicely illustrate this suddenly 'obvious' dimension to the geometry of evo-devo. The topological dimension to biology was an inevitable development, Pivar fires the opening shot in his engaging exploration of a new angle on the evolution mystery.

On the Origin of Form presents a new account of evolution and the origin of life based on the premise that the body form of any species is encoded not in the DNA but in the patterned structure of the primordial germ plasm—the universal predecessor of the egg. Two hundred years after Johann von Goethe's Faustian quest for the Urform, the archetypal design underlying all living form, comes the recent discovery that organic forms are derived from a unique, self-organized, pre-embryonic structure. This explanation of evolution is an alternative to the now widely questioned Neo-Darwinist theory of natural selection of random mutations. This new model is based on known, relatively uncomplicated scientific principles and is easily accessible to the interested layman. Included are sixty-four pages of illustrations that support this new theory. For additional information, please visit www.ontheoriginofform.com.

"Stuart Pivar's book, *On the Origin of Form*, contains ideas that deserve full scientific scrutiny, especially in light of the turmoil roiling evolutionary biology at present. Pivar is presenting, in a series of brilliantly rendered graphical diagrams that show his interpretation of how modifications of a torus shape can generate a vast panoply of biotic form, a new theory of morphogenesis.... This is a seismic event for science. Conventional evolutionary biologists are right to be very worried about this, because it has the potential to trigger the complete collapse of Modern Synthesis Biology." Mark A. S. McMenamin, PhD, Paleontologist, Professor of Geology, Chair of Earth and Environment, Mount Holyoke College

"This is the discovery of the connection between the laws of physics and the complexity of life." Murray Gell-Mann, PhD, Distinguished Fellow, Santa Fe Institute, Nobel Laureate

About the Author: Stuart Pivar is a chemist and engineer and founder of the New York Academy of Art in New York City. In 1996 he founded the Human Blueprint Laboratory to investigate the origins of form. He lives in New York City.