

5.0 out of 5 stars

Flips 100 years of biology dogma on its head

Reviewed in the United States on 16 August 2023

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This book re-establishes the role of choice and freedom in biology, after 100 years of being ignored and sidelined. These qualities are not merely characteristics of life, or "epiphenomena". They are the very signature of life. It cannot be understood any other way.

This is plain enough to the average six year old, but the opposite is drilled into the heads of most biologists and medical students from the first day of their freshman year.

This book canvases zoology, physiology, ecology, genetics, philosophy, and in the process delivers a takedown of the Selfish Gene theory. Everyone should watch author Denis Noble's debate with Richard Dawkins, easily found with an online search. The authors have impeccable credentials; Denis Noble, Oxford Professor, FRS, CBE, deciphered the mechanisms of the cardiac rhythm which made pacemakers possible; he's been nominated for the Nobel Prize and may yet win it. Ray Noble works at the Institute of Women's Health at University College London.

Despite their lofty credentials they really do write in simple plain English and readers with a basic grasp of science and biology will have no difficulty following their arguments.

The book delivers a careful study of the chain of causation in genetics, showing that it is not possible for "genetic determinism" [the idea that genes determine everything] to be true. Genes are mere organs of the cell and cells modify genes at will. To say the gene is the originator of everything is like defining a human being as "a stomach with legs."

They challenge not only the medicine of reductionism, but the nihilism and despair as well. Though never explicitly stated, reading between the lines one can sense the authors' disdain for the pervasive belief that science has rendered life meaningless and narcissistic. It is clear from the stories and examples here that their views are as far from that as can be.

In this book you'll get a detailed study of the failings of Neo-Darwinism, the version of evolution taught in most textbooks; and you'll get a preview of the "Third Way" evolution and systems biology which are replacing it.

Quoting from page 90:

"A major point in this book is that a consequence of a gene-centric approach to animals is that they become treated as machines, as automata. They become seen as the passive recipients of whatever environment they find themselves in. Yet organisms themselves create all the 'natural' environments on earth, and in doing so organisms have evolved in response to change."

This attitude of treating animals plants and nature like machines drives environmental destruction and pill-prescribing laziness in medicine.

One of the finest rewards of this book is how widely read the authors are, and how many fields they draw from. You'll encounter fascinating anecdotes, for example a detailed explanation of the biological systems foxes use to hunt and cooperate.

Finally the book is a short, quick, pleasant read. Five stars all the way.