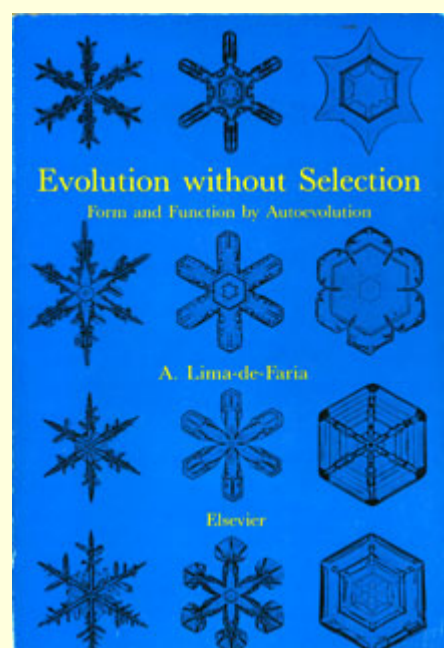


Evolution without Selection

Form and Function by Autoevolution.

A review by Gert Korthof
16 Jan 2001
(update 23 Apr 2011)



A. Lima-de-Faria (1988)
Evolution without Selection. Form and Function by Autoevolution.

- "Neo-Darwinism is a hindrance to the discovery of the mechanism of evolution"
- "The rise and fall of Darwinism and neo-Darwinism"
- "Neo-Darwinism is not a scientific theory" (p. 311)
- "There has never been a theory of evolution" (p. 6)
- "Selection is a term that must be banished from evolution" (p. 312)
- "Selection cannot be weighed, stored or poured into a vial" (p. 7)
- "Form and Function were not created by genes and chromosomes" (p. 26)
- "A deer may be transformed into a whale by chemical manipulation and a series of relatively rapid events." (p. 248)

(quotes from the book)

Who is the author of these extraordinary claims? Lima-de-Faria is a cytogeneticist known for his *Molecular Evolution and Organisation of the Chromosome* (1983) (1). So there seems nothing wrong with that: just normal science. Could such a scientist produce an anti-Darwinist book? A 372 page, richly illustrated book with over 600 scientific references? He is not a creationist. He is an anti-Darwinist but not anti-evolution! He accepts evolution. But not natural selection. That makes this book even more remarkable! If not God or natural selection created the living world: who or what did? What is *his* explanation of evolution? Of course his answer is: 'auto-evolution'. It's in the title of his book: Form and Function by *Autoevolution*. But, what does it mean: 'autoevolution'? He failed to explain it to me in a straightforward way. He seems to be claiming that the origin of life has to be found in crystals and minerals. He claims that most patterns found in animal structures are already present in the minerals or in physico-chemical processes (p. 104). For example he suggests that it is an important observation that the pattern of circumvolutions of the human brain is already present in invertebrates, plants and pure physico-chemical processes. He illustrates many of these similarities with many beautiful pictures. However he doesn't convince the reader that these similarities are more than just coincidences. I fail to see the relevance of those similarities for explaining the *causes* of biological form and evolution.

What is wrong with natural selection?

Let us first have a look at the problems the author has with natural selection and later what *his* explanation is for the evolutionary process.

Lima does not deny the existence of selection, but he denies that it has anything to do with evolution. "**Selection is a word that must be removed from the vocabulary of biology**" (page xviii) because it is an abstract concept and it is not material. "**Selection cannot be measured in well-defined units such as millimetres, it cannot be poured into a vial and cannot be weighed on a balance**" (pxviii). These are outrageous criteria. If all abstract concepts should be removed from science, there wouldn't be any scientific theory at all left. What about the concept of a 'gene'? The point is that 'abstract' is not the same as 'vague'. Numbers and mathematics are abstract but not vague! They are exact, precise. Is 'gravitational field' or 'electromagnetic field' a material thing? Is it abstract? I hope that Lima doesn't want to remove it from physics! There could be something wrong with the concept of natural selection, but Lima is unable to point it out. He used the wrong arguments as far as I can see.

The concept 'lethal mutation' means that an individual with that mutation dies. Well, that is natural selection in action. Without natural selection the concept 'lethal mutation' has no meaning at all. Natural selection means differential reproduction of genotypes. This can be exactly measured in the laboratory and sometimes in the field. This is what population genetics is all about. But *that* word is not in his vocabulary. Lima *does* know about differential reproduction and rightly states that differential reproduction is not *necessarily* the mechanism of evolution. Of course not necessarily, but there could be *evidence* that selection is the mechanism of evolution, isn't it? And there happens to be evidence. If Lima only did read the evidence for natural selection presented by the anti-Darwinist Denton (*Evolution: a Theory in Crisis*), he would be convinced!

I do agree with Lima (contrary to orthodox neo-Darwinism) that natural selection and mutation are not sufficient to explain all diversity of life forms on earth. But affirming that is quite another thing, than to remove it from biology. If selection exists, one cannot remove it from biology without making biology incomplete. Even a creationist like Phillip Johnson (*Darwin on Trial*) recognises natural selection as the most important Darwinian concept. And more than 50 years earlier the creationist Frank Lewis Marsh accepted micro-evolutionary change (*Evolution, Creation and Science*, 1944). Indeed, Lima-de-Faria is exceptional among the critics of evolution in totally rejecting natural selection.

Do crystals contain the secret of life?

If Lima-de-Faria holds that crystals are the secret of life, he must be wrong according to writers such as Hubert Yockey, William Dembski and Dean Overman. Crystals contain order, not complexity. Complexity is unique to life, not order. Crystallography, high polymer chemistry and physics are separated from biology by a wide gap. (2)

Erwin Schrödinger (1944) remarked in his famous *What is life?* that the genetic material, whatever its chemical structure, must be an 'aperiodic crystal'. "The genetic material must resemble a crystal in being **stable** and relatively inert, but it must also be 'aperiodic', in the sense of being composed of several different kinds of unit and not just of one kind of unit like a crystal of salt. The reason is that a string of identical units cannot convey **information**, whereas a string of dissimilar units can." (3).



"Evolution without Selection. Form and Function by Autoevolution."

A. Lima-de-Faria.

1988.

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Index (the index is very good)

Postscript 2011

I discovered a paragraph *The function of introns* in Chapter 11. Introns are non-coding parts of genes and are spliced out. He writes "The function of introns, which were previously classed as 'junk' or 'parasitic' DNA, is becoming evident from the analysis of the splicing mechanisms. They are implicated in the regulation of gene expression." (page 152). Today, introns and splicing are the subject of intense research and gradually more and more functions of introns are discovered, and the regulation of gene expression is one of those functions. However, there is no universal function of introns which is valid for all genes. So, it seems that the function of introns must be investigated on a case by case basis. The human genome has about 160.000 introns (average 8 introns per gene, and 20.000 genes) and so far the function, if any, of the majority of introns is unknown. I was surprised that Lima-de-Faria was aware of functions of introns already in 1988. For further information about introns see wikipedia article [introns](#). [23 April 2011]

Notes:

1. Also published by A. Lima-De-Faria: *Biological Periodicity : Its Molecular Mechanism and Evolutionary Implications*(1995). [title brought to my attention by Ralf Schroeter (June 2000) and by Dr. Predrag Slijepcevic (Dec 1998)]. Search on scholar.google.com for all the publications of Lima-de-Faria.
2. Hubert Yockey quoted in Dean Overman (1997) *A Case Against Accident and Self-Organization*, p. 102.
3. John Maynard Smith & Eörs Szathmáry (1999) *The Origins of Life. From the birth of life to the origin of language*, p. 12.

Further Reading

- Antonio Lima-de-Faria (Lund University, Sweden) (2008) 'Praise of Chromosome "Folly". Confessions of an Untamed Molecular Structure', [World Scientific Books](#).
- A. LIMA-DE-FARIA (1980) [How to produce a human with 3 chromosomes and 1000 primary genes](#), republished *Hereditas* Volume 93, Issue 1, pages 47–73, September 1980. This is a very remarkable and visionary article. Free pdf.