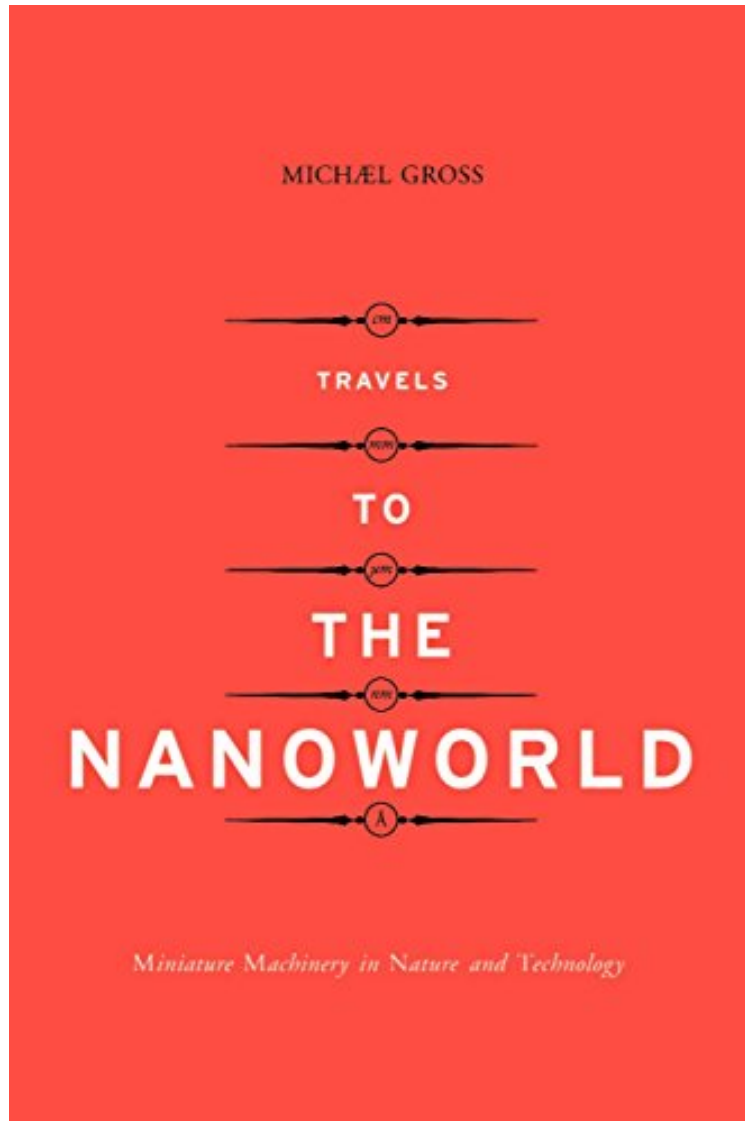


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# Travels to the Nanoworld: Miniature Machinery in Nature and Technology

*Michael Gross*

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**Michael Gross : Travels to the Nanoworld: Miniature Machinery in Nature and Technology** before purchasing it in order to gage whether or not it would be worth my time, and all praised Travels to the Nanoworld: Miniature Machinery in Nature and Technology:

1 of 2 people found the following review helpful. WHAT'S NEW HERE?By WorldreelsThe crux of the problem is that Gross can't take us on a tour of the picoworld, the femtoworld or the attoworld where the real mechanics of the

nanoworld must lie hidden. Depending on the reader's background this book could range from being a big bore to being quite interesting. Most of his speculation about nanotechnology is borrowed from Drexler. If you've read Drexler there is no point in rereading it here. However briefly, he does warn that this fiddling in the nanoworld could result in ultimate bacterial weapons and freaky humans. Boiling down the message-much of Gross' nanoworld tour consists of illustrating activity within cells and bacteria. He is like a man looking at a bird in flight and saying, "Look, man can fly too." When he goes off on tangents like the blue rose, the green genes and pressure squeezed eggs the reader realizes he is grasping at straws. Much of the book explains how x-ray crystallography, NMR spectroscopy, and laser pulse photography are used to magnify and stop the action occurring within the animal cell. In this way he reduces life, the cellular processes, to those like message transmission, transport, protein folding, and protein synthesis /catalysis. He speaks of the new fields of biotechnology and genetic engineering to change the DNA blueprint but that is what evolution has been doing for billions of years. What's new here beyond splicing into the bacteria's DNA to create drugs like insulin or frost proof vegetables? 0 of 0 people found the following review helpful. Poorly written and not what you probably expect By Kieran Fox I found this book incredibly tedious and poorly written. There is indeed some interesting information within, and fascinating tidbits pop up here and there, but on the whole it is very tough to wade through the atrocious prose. I also (like many others it seems) bought the book expecting it to basically be about nanotechnology and how mol. bio. ties in with it, but this theme is rarely discussed. The book tends to ramble on about chemistry and molecular biology, at times in very simple terms anyone can understand (if they care), at times suddenly jumping to textbook-level detail. I studied molecular biology in university and have a strong interest in nanotechnology, but never have I come across a book which has rendered what I consider some of the most fascinating fields of inquiry so irredeemably dull and lifeless. Even some of my textbooks were more lively. I'm sure this was a well-intentioned effort and the author seems very knowledgeable, but I could barely force myself through this book. I can't recommend this at all, especially when there are much better and more stimulating alternatives out there, such as Drexler's "Engines of Creation" and "Nanosystems." Pass on this one; save your time and money. 4 of 7 people found the following review helpful. A good introduction to nanotech. By Eric Bauswell This book was a relatively quick read. It covers most of the basics without burying the novice (like myself) in the wealth of details in some of the more advanced books on the subject. Nanosystems and Engines of Creation are two great books for more on nanotechnology by Eric Drexler. Take a look at [...]

Our lives are about to be changed by new technologies that operate on a scale too small to be seen by even the most powerful optical microscopes. Devices measured in nanometers-billionths of a meter-have set off a nanotechnology revolution. In *Travels to the Nanoworld*, Michael Gross takes us deep into this miniature universe and describes natural processes and new technologies that will make modern machines look like relics from the Stone Age. Starting with the model of the living cell, whose vital processes are directed and carried out by structures with dimensions on the nanometer scale, Gross shows how biochemists are beginning to understand the mechanisms of the "nanotechnology of nature." Soon science will have the knowledge and technology to generate artificial systems that will perform similar tasks, and through them will find new treatments for disease, substitutes for toxic waste, and alternatives to carbon fuel.

.com Imagine a world of invisible servants, nimbly trimming unsightly hairs and whipping up a strawberry mousse while you relax on your 200th birthday. Biochemist Michael Gross takes you there with *Travels to the Nanoworld*, an explanation and exploration of machines so tiny and complex as to rival the powers of the mightiest magician. The lively, compelling prose introduces the subject bit by bit, sharing the secrets of physics, biochemistry, and engineering with concrete examples, then moves on to current and future research possibilities. You'll visit with scientists who are cooking eggs at room temperature, creating microscopic "buckytubes" of rolled graphite, and digging into our DNA to create the next generation of computers. Gross takes the time to explain his points carefully, but this never detracts from the narrative flow; furthermore, his attention to describing processes and personalities makes the players and even the technology come alive on the page. Whether writing about nanotech guru K. Eric Drexler's unabashed cheerleading or wise guy Richard Feynman's eerie prognostication, he makes the stories so engrossing that it's easy to forget that most of the advances in *Travels to the Nanoworld* are yet to come. It's a great place to visit, and if we're lucky, we'll get to live there. --Rob Lightner  
Language Notes  
Text: English (translation) Original Language: German  
About the Author  
Dr. Michael Gross has studied various aspects of life under extreme conditions throughout his research career. He received his doctorate in physical biochemistry from the University of Regensburg, Germany. After seven years of research in protein biochemistry at the University of Oxford, he has recently switched to writing full time. He lives in Oxford, England, and is the author also of *Travels to the Nanoworld*.