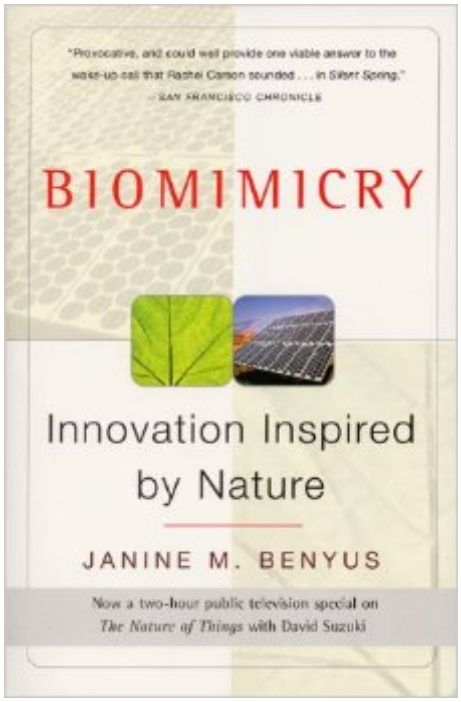
Biomimicry: Innovation Inspired By Nature



Synopsis

This profound and accessible book details how science is studying natureâ ™s best ideas to solve our toughest 21st-century problems.If chaos theory transformed our view of the universe, biomimicry is transforming our life on Earth. Biomimicry is innovation inspired by nature â “ taking advantage of evolutionâ ™s 3.8 billion years of R&D since the first bacteria. Biomimics study natureâ ™s best ideas: photosynthesis, brain power, and shells â “ and adapt them for human use. They are revolutionising how we invent, compute, heal ourselves, harness energy, repair the environment, and feed the world. Science writer and lecturer Janine Benyus names and explains this phenomenon. She takes us into the lab and out in the field with cutting-edge researchers as they stir vats of proteins to unleash their computing power; analyse how electrons zipping around a leaf cell convert sunlight into fuel in trillionths of a second; discover miracle drugs by watching what chimps eat when theyâ ™re sick; study the hardy prairie as a model for low-maintenance agriculture; and more.

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Customer Reviews

Before even reviewing the book, it seems as though I must explain its raison de’etre; for some negative reviews disclaim the very import of looking to nature as a model for life. For starters, nature runs on sunlight and creates no waste. To me, this alone is reason enough to mimic nature, since our profligate energy use has caused a global eco-crisis. Not only does the combustion of fossil fuels pollute the air breathe (leading to some 3 million deaths from air pollution annually according to the WHO), but it also floods the atmosphere with CO2, leading culprit in the greenhouse effect.

Moreover, being that the supply of crude oil is finite, the very foundation of our economy will one day run dry. Nature, on the other hand, runs on the unlimited bounty of sunlight. Unlimited clean energy is just one example of the genius of nature which author Benyus points out in this book.Nature does many other wonderful things we would do well to learn from. Arctic fish and frogs freeze solid and then spring to life, having protected their organs from ice damage. Black bears hibernate all winter without poisoning themselves on their urea, while their polar cousins stay active with a coat of transparent hollow hairs covering their skins like the panes of a greenhouse. Chameleons and cuttlefish hide without moving, changing the pattern of their skin to instantly blend with their surroundings. Bees, turtles, and birds navigate without maps, while whales and penguins dive without scuba gear. How do they do it? How do dragonflies outmaneuver our best helicopters? How do hummingbirds cross the Gulf of Mexico on less than one tenth of an ounce of fuel? How do ants carry the equivalent of hundreds of pounds in a dead heat through the jungle? How do muscles attach to rock in a wet environment?

Let me begin by saying I have a BS in chemical engineering and an MSPH in environmental engineering, so I am not some sort of uneducated, naive, "new-age" dreamer, who has no concept of what is practical and what is not. Morover, I have now worked for over 16 years at various industrial facilities (chemical, textile, and other manufacturing) as a process engineer and an environmental consultant. I’ve seen what’s out there in the industrial landscape.With that said this is simply the BEST non-fiction book I have ever read. It is chock full of fascinating "earth-friendly" ideas that are simply crying out to be implemented. It is written in a very "personal" tone, which I believe amplifies the book’s message. In fact, don’t let this tone make you think the book’s technical depth is lacking. On the contrary, this book delves into some very complex concepts, but does so in a manner that a non-technical person can follow.For those areas where I have specific knowledge (such as elements within industry who actually WANT to comply with all environmental requirements and WANT be "GREEN"), the author is on target and displays an excellent grasp of what’s going on. Thus, for those ideas and concepts in the book that were new to me, I have no reason to beleive that the same does not hold true.As long as you are able to set asise the cynicism that seems to have risen to such high levels nowadays, this book will make you THINK about better ways of doing things. Just two simple examples include: (1) Designing a perennial "community" for agriculture mimicking the natural plant community that otherwise would be there, rather than planting a non-diverse, single species, requiring annual reseeding, fertilization, insecticides, herbicides, etc.

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