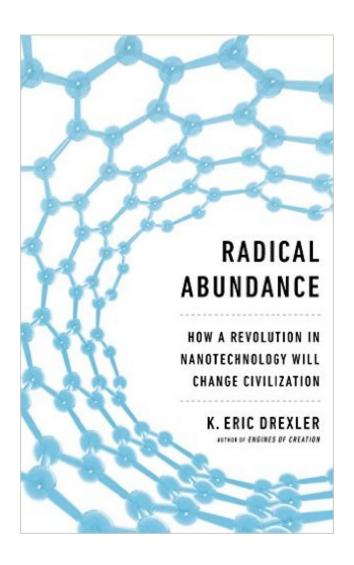
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Radical Abundance: How A Revolution In Nanotechnology Will Change Civilization





Synopsis

K. Eric Drexler is the founding father of nanotechnology—the science of engineering on a molecular level. In Radical Abundance, he shows how rapid scientific progress is about to change our world. Thanks to atomically precise manufacturing, we will soon have the power to produce radically more of what people want, and at a lower cost. The result will shake the very foundations of our economy and environment. Already, scientists have constructed prototypes for circuit boards built of millions of precisely arranged atoms. The advent of this kind of atomic precision promises to change the way we make things—cleanly, inexpensively, and on a global scale. It allows us to imagine a world where solar arrays cost no more than cardboard and aluminum foil, and laptops cost about the same. A provocative tour of cutting edge science and its implications by the fieldâ TMs founder and master, Radical Abundance offers a mind-expanding vision of a world hurtling toward an unexpected future.

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Customer Reviews

Radical Abundance is a dictionary example of prestalgia. We know atomically precise manufacturing (APM) is coming. We know what it will look like. We know it will solve huge problems

and make life for us and for the planet infinitely better. We want it yesterday. But we have to wait for the details to be sorted out. Hurry up guys. We're waiting for the good old days. Nanotechnology took a bad rap for theoretically ushering in an era of microscopic robots that will report on you, burrow into your brain, and wreak havoc in the food chain for their own nefarious purposes. Drexler has been fighting this image pretty much since he coined the term in the mid 80s. What nanotechnology and APM are really about is a quantum leap in manufacturing efficiencies and pollution reduction and abatement. The upside is incalculable. Put simply, he says, what computer systems did for processing information, APM will do for processing matter. Just as we no longer use pencil and paper to run a financial model, we will no longer assemble automobiles in a football stadium of a factory. All the equipment needed will fit in a garage. Cars will be turned out to order, in minutes. Factories can therefore make anything and be anywhere. No need for anything to be manufactured across the planet and shipped by boat, rail and truck. This will save on fuel, on packaging, on raw materials, and make everything less expensive. And factories can produce other factories just as easily as cars. It will be done by adding atoms to atoms, molecules to molecules and microblocks to microblocks, fast and effortlessly - millions or billions per minute and per microblock. Effortlessly because they can self assemble using thermal motion.

Back in 1986 K. Eric Drexler coined the term "Nanotechnology" in his first book, "Engines of Creation". He defined nanotechnology as a potential technology with these features: "manufacturing using machinery based on nanoscale devices, and products built with atomic precision". Here in his sequel, "Radical Abundance: How A Revolution in Nanotechnology Will Change Civilization", Drexler expands on his prior thinking, as well as correcting much of the misconceptions regarding the exact nature of nanotechnology, dismissing fears of a dystopian future replete with nanobots and other evil outcomes associated with nanotechnology. Instead, Drexler offers readers a most compelling, optimistic vision as to how nanotechnology can be used to benefit humanity, in grappling with issues as vexing as dealing with pollution and climate change and in making tremendous strides in improving medicine so it can benefit much of humanity. Drexler begins by offering us a brief history of technology and its relationship with science, emphasizing the importance of Karl Popper's philosophy of science as a means for influencing the future direction of nanotechnology. In his advocacy of atomically precise manufacturing, Drexler notes how engineers should adhere to common sense solutions to engineering problems, by crafting solutions that are both consistent and efficient with regards to science and engineering and yield truly useful products, not prototypes destined to languish almost forgotten in the technological research centers that

conceived of them.

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