

## The Pebble and the Avalanche: How Taking Things Apart Creates Revolutions

**Moshe Yudkowsky**

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Sparked by an idea from an industry discussion group, “the pebble and the avalanche” is a metaphor for what the author refers to as “disaggregation,” the “process of taking things apart, breaking connections, and of dismantling the infrastructure of technology and its businesses.” Just as a pebble rolling down a cliff can dislodge other rocks and cause a snowball effect, unbundling the structure of technology “can unleash an avalanche that has tremendous energy, one that can change the entire landscape.”

While that can be an unsettling concept for companies forced into divestiture, it can also be an opportunity and a driving force for change that can transform and grow a company in unforeseen ways. Companies can choose to disaggregate pieces of their business to transform them into thriving extensions of the core business. EBay successfully disaggregated its internal computer systems to allow other companies to integrate their business with eBay’s auctions, resulting in increased business to all involved. This concept has been executed successfully by other companies, such as AT&T and Microsoft.

The book contains case studies of some of the most notable innovations from the 1800s to the present—such as automobiles, computers, and the Internet—that are examples of disaggregation. It refers to the “pebbles” that make up the structure of technology: electronics, chemicals, manufacturing plants, software, processes, government regulations, patent rules, etc. The author discusses six universal benefits of disaggregation: creativity, competition, cost reduction, simplicity, specialization, and synergy. Synergy occurs when “pebbles” are rearranged to create further disaggregation and are used to develop new products—the avalanche effect—the best example of which is the Internet.

The book demonstrates how disaggregation can also be an innovation to solve a business problem. Companies that have a core product that’s becoming obsolete can reinvent themselves by using disaggregation. Kodak, for example, now sells digital cameras and related supplies, adapting to the declining use of film as the digital processing revolution threatened to make traditional photography obsolete.

The author is president of Disaggregate, a technology consulting firm, and founder and chair of the professional organization Midwest Speech Technology Association. He has a Ph.D. in condensed matter physics from Northwestern University and has worked at Bell Laboratories and Dialogic Corporation.

The goal of his book is to help readers understand, create, and apply revolutionary technology in business. It provides readers with strategies to accomplish the four stages of disaggregation, which are to devise, interface, accept, and evaluate.

Although Yudkowsky is quite knowledgeable in technical terms, his writing style is flowing, conversational, and easy to read. The book makes several references to current computer technology, but it is written in easy-to-understand layperson’s terms, with examples from various industries that readers will be sure to recognize.

CINDY KRYSZAK (August 18, 2009)

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