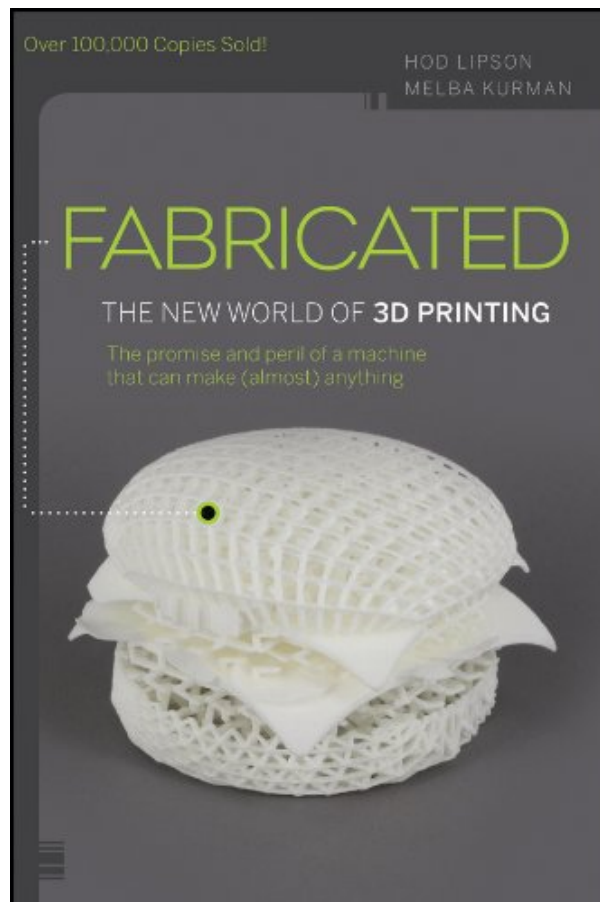


FABRICATED: THE NEW WORLD OF 3D PRINTING BY HOD LIPSON, MELBA KURMAN



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FABRICATED

THE NEW WORLD OF 3D PRINTING

The promise and peril of a machine
that can make (almost) anything



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Fabricated tells the story of 3D printers, humble manufacturing machines that are bursting out of the factory and into homes, businesses, schools, kitchens, hospitals, even the fashion catwalk. The magic happens when you plug a 3D printer into today's mind-boggling digital technologies. Add to that the Internet, tiny, low cost electronic circuitry, radical advances in materials science and biotech and voila! The result is an explosion of technological and social innovation.

Fabricated provides readers with practical and imaginative insights to the question "how will 3D printing technologies change my life?" Based on hundreds of hours of research and dozens of interviews with experts from a broad range of industries, Fabricated offers readers an informative, engaging and fast-paced introduction to 3D printing now and in the future.

Chapters and contents
Chapter 1: Everything is becoming science fiction. What would "just another regular day" look like in a future, 3D printable world?

Chapter 2: A machine that can make almost anything. Information morphed from analog form to digital. Will physical objects be next? Ten key principles explain 3D printing's disruptive power.

Chapter 3: Nimble manufacturing. Emerging business models lie somewhere between mass production and the local farmer's market. Small-batch manufacturing is becoming profitable, freeing entrepreneurs from the tyranny imposed by economies of scale.

Chapter 4: Tomorrow's economy of printable products. 3D printing, low-cost design and manufacturing technologies create new market opportunities as consumers increasingly crave on-demand, custom "experience" products.

Chapter 5: Printing in layers. For those of a technological bent, a deep dive into the inner workings of the 3D printing process.

Chapter 6: Design software, the digital canvas. Without an attached computer, a 3D printer is just an elaborate paperweight. An overview of design software and "digital capture."

Chapter 7: Bioprinting in "living ink." Design software and 3D printers read medical scans to fabricate living tissue and custom artificial joints. How long before all of us can tap into this Fountain of Youth?

Chapter 8: Digital cuisine. Today you can 3D print "high resolution" and delicious shortbread, chocolate figurines and tortillas. In the future, Quantified Selfers and couch potatoes alike will balance their diets by streaming biometrics to a food printer.

Chapter 9: A factory in the classroom. Primary and middle school teachers teach "children's engineering" using vivid, hands-on lesson plans.

Chapter 10: Unleashing a new aesthetic. 3D printers are the output device computer-savvy artists, designers and architects have been waiting for.

Chapter 11: Green, clean manufacturing. What's cleaner to make? A 3D printed plastic toy or a mass-produced plastic toy? 3D printers may introduce greener living... or help us drown in a rising tidal wave of plastic junk.

Chapter 12: Ownership, safety and legal frontiers. Technology evolves faster than the law. Consumer safety and intellectual property laws will stretch to deal with printed weapons, counterfeit products and unregulated custom-made products.

Chapter 13: Designing the future. Why was Star Trek's Replicator used only to make Earl Grey tea? Because once we shape our tools, then our tools shape us. Next-generation design software will unshackle

our imaginations, giving us new ways to imagine and edit the physical world.

Chapter 14: The next episode of 3D printing. What lies ahead? Watercolor artists create infinite hues by blending primary colors. Regular people will design and blend standard materials -- or micro-scale electronic components -- and "print" them out in fine, meticulously patterned sprays. The result? Weird and wacky new materials. Robots that walk out of the 3D printer. Ready-made, responsive smart materials.

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Most helpful customer reviews

1 of 1 people found the following review helpful.

GOOD

By wnjbutler

This is a good introduction to 3D printing. Not outstanding, but good. If I was the expert, and writing this book, I would make this book more like a text, with more technical information that explained the processes, the possible pitfalls, provides more details about the different materials, and the advantages and disadvantages of each type of printing material. Also, I would make the storytelling about Mr. Lipson's experiences and interviews succinct. He certainly got some good information from his interviews of other experts, but I really don't care where he got the information and where he had to travel to get it... Now, I'm going to look for a text book on this subject.

1 of 1 people found the following review helpful.

Imagine

By J.R. Sedivy

Imagine a book that could introduce you to the world of 3D printing and open your mind to the possibilities this technology could unleash. Imagine a book that educates and entertains. Now Imagine a book that that you can't put down yet you constantly stop to reread so as to fully grasp the implications of the authors' statements.

The preceding captures the essence of Fabricated. Fabricated is one of those rare books that unleashes your

imagination while educating. The writing is like storytelling, yet educational and the illustrations are a work of art. I had a sense that I would enjoy Fabricated, but the extent, quality, and value of this book far exceeded my expectations.

I cannot recommend this book highly enough for anyone with an interest in 3D printing. Whether you are curious, understand a little, or are well versed in the subject matter, I believe that Fabricated has something for everybody.

The possibilities are endless; now what will you do with the information presented within?

0 of 0 people found the following review helpful.

Intriguing

By Anthony Blumfield

Fabricated by Lipson and Kurman describes the popular topic of 3D printing, but rather than explore the nuts and bolts of the technology, it looks at the prospects of 3D printing as an industry, making it a great read not only for technology enthusiasts, but also for investors, economists, and industry leaders.

3D printing has captured a fair share of media attention lately and some of the popular applications are mind boggling. But are they real? Are we on the verge of a 3D printing revolution that will create a new multi billion dollar industry or is this just enthusiasm with a cool technology? The authors explore this question from multiple facets and by the end of chapter 7 the reader may be disillusioned. Without a killer app it just will not happen, and many popular 3D printing ideas are either too far-fetched to become a killer app in the near future (e.g. organ printing) or not sufficient to generate large enough demand (e.g. spare parts).

However, then comes chapter 8, food printing. It almost seems that the first seven chapters were written merely to make the reader desperate enough to consider the idea. At first glance you may ask who on earth will print food? But by the end of the chapter hopefully you will 'get it' and join the authors in their prediction that food printing is the most likely killer app for 3D printing, the application that will turn a cool technology into a mainstream product.

If not yet convinced, chapter 9 - education - is icing on the cake. The example of printing a play dough space shuttle with elementary school 2nd grade kids is intriguing and begs the question of why wouldn't mummy (or daddy) use her 3D printer backing machine from chapter 8 to make custom SpongeBob cookies with little Danny?

The book continues on the route of education and art and then delves into legal challenges that lay ahead as 3D printing becomes more common. Not just the media magnets like printing guns, but also the more common challenges of how our legal system may fall short in terms of IP protection and liability.

The final two chapters attempt to predict beyond the near future, demonstrating that our tendency to view innovation in incremental steps causes us to underestimate the full potential of 3D printing.

Overall, excellent read; once you're hooked it's hard to put down.

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