

Review

SPECIAL ISSUE ON PEER-TO-PEER AND USER-LED SCIENCE

The unsustainable Makers

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C. Doctorow, The Makers, Tor books (2009)

ABSTRACT: The Makers is the latest novel of the American science fiction writer, blogger and Silicon Valley intellectual Cory Doctorow. Set in the 2010s, the novel describes the possible impact of the present trend towards the migration of modes of production and organization that have emerged online into the sphere of material production. Called New Work, this movement is indebted to a new maker culture that attracts people into a kind of neo-artisan, high tech mode of production. The question is: can a corporate-funded New Work movement be sustainable? Doctorow seems to suggest that a capitalist economy of abundance is unsustainable because it tends to restrict the reach of its value flows to a privileged managerial elite.

The Makers, published by Tor Books in San Francisco and available to read on the Tor.com website (and for free download at a number of different mirror sites on line) is Cory Doctorow's recent novel. Doctorow, a prolific science fiction writer has emerged as sort of 'organic intellectual' to the Silicon Valley based tech-entrepreneurial movement characterized by what Richard Barbrook and Andrew Cameron once famously called the 'Californian ideology': a mix of technological utopianism, libertarian lifestyles and a wholehearted embrace of the free market that has evolved around the info tech and start-up environments in Silicon Valley since the dot.com boom of the 1990s, and that has been diffused primarily by Wired.¹ As founder and editor of the influential tech blog Boingboing.net, Doctorow has been at the center of an emerging vision of the future marked by the impact of networked information and communication technologies, which he has elaborated in his work as a sci-fi writer.

In his first novel *Down and out in the Magic Kingdom*,² Doctorow described a distant future in which advances in material production and biotech had realized an economy of abundance where problems of material and biological scarcity had been solved by instant production technologies and the engineering of eternal life. Set in Disneyland, where groups of amateurs (in the original sense of the term) work together to renovate and develop the theme park's classic rides, the book describes a functioning economy of abundance in which access to scarce goods, like a table in a fancy restaurant or an apartment in an attractive building, is determined by accumulations of 'Whuffie', or quantitative representation of a person's social impact. Thus projecting the reputation economy that is emerging at the heart of contemporary web 2.0 practices into the future, Doctorow gives us an idea of how a post-scarcity, post-capitalist economy *could* work. In his recent novel, *The Makers*, the horizon is more limited. Set in the 2010s, the novel describes the possible impact of the present trend towards the migration of modes of production and organization that have emerged online into the sphere of material production.

The book starts off with Kodak and Duracell, both makers of obsolete products, merging to form Kodacell. Under the leadership of dynamic ex-venture capitalist Kettelwell, endowed with the corporate version of a surfer's good looks, Kodacell embarks on a wave of micro-financing: identifying small teams of innovators across the country and providing them with the backing and managerial skills needed to take their bright ideas to market. The result is the New Work Movement, a sort of dot.com boom 3.0, but this time based on material production. Building on new radical technologies like 3D printers; on the abundance of scrap technology available for recycling; on Open standard for designs and other kind of intellectual property and on the innate skills of a by-now wide-spread 'maker' culture of tinkerers, recyclers and

hardware hackers, the New Work movement generates a plethora of innovations- from robotic dolls (The Boogie Woogie Elmos) synchronized to team-drive a car, via multifunctional Garden Gnomes, to RFID tagging systems that help keep order, and hence, peace, in the kinds of overflowing multi-person households that have become the standard as the nuclear family has collapsed as a social as well as economic unit. We get to follow the New Work movement through the eyes of Suzanne, a silicon valley journalist who quits a by now underfunded *San Jose Mercury*, and moves out of the valley just before house prices implode, to become the main blogger of the movement, and Perry and Lester two genius hardware hackers who work out of an abandoned strip mall in Florida and specialize in robotic sculptures made out of recycled techno junk, like the toast robot built from souvenir seashells or Lester's mechanical computers. (In the end of the book, before dying from complications resulting from his St. Petersburg treatment for obesity- a cocktail of appetite-suppressing hormones, stem cells and genomic therapy and that makes his body consume 10.000 calories a day just sitting down, thus becoming a 'fatskin' a skinny fat person who devotes most of his energy to making up for missed sexual occasions – Lester succeeds in building an 'Apple clone running entirely on physical gates made out of extruded plastic skulls. It takes up an entire building out on one of the lots and when you play Pong on it, the sound of the jaws clacking is like listening to corpse beetles skeletonizing an elephant.'). When the New Work movement collapses – we are never really told how, just that the astute Kettelwell got out in time to make a comfortable fortune – Lester and Perry are left in a Florida marked by social disintegration, gangs, urban squalor and overall pessimism ('nobody wants to make anything anymore'). They cling on to the squatter community that once organized around their workshop as a sort of living lab for their effort to produce cheap high tech gear for the world's growing population of homeless and squatters, and dedicate their efforts to maintaining a nostalgic, Disney-like ride that features the treasures of the now defunct New Work Movement, and that changes everyday, by means of 3D printers and rapid prototyping, according to input supplied by users, in true peer-to-peer fashion. The ride leads them into a number of legal battles with Disney (and Kettelwell makes a comeback inventing the long term litigation investment vehicle, a truly Schumpeterian instrument where investors provide the juice necessary to brake the back of a corporate behemoths like Disney and capture their assets), ending in the pair and their rides eventually being bought out. Lester goes to work for Disney, and Perry hits the road, working for the many self organized work crews that now spring up in the wasteland of a US in rapid decline.

Like Doctorow's previous work the novel is a great read and quite an eye opener to future scenarios. The story is darker this time though. Maybe because his first novel, *Down and Out in the Magic Kingdom* (always maintaining an ironic fascination with Disney that looks like something of a geeky in-joke) was set in the distant future, and maybe because his 'Californian Ideology' tainted optimism has taken a understandable hit or two in recent years. *Down and Out...* described a future economy of abundance governed by a fully functioning reputation economy, where the accumulation of Whuffie, or social recognition for one's genuine contribution to the common cause, determined access to scarce resources. In *The Makers*, we are still in an abundance economy, albeit contained within a, however struggling, capitalist value form. This abundance comes from the radical oversupply of stuff produced by our present consumerist paradigm, and thrown away long before its natural obsolescence to be recycled at will. Add to this the integration between a booming Open Design movement, 3D printers and other kinds of rapid prototyping and new computerized precision tools. As Lester answers the question 'why build a toast robot out of sea shells?':

It's like this, engineering is all about constraint [...] but these days, there's not much traditional constraint. I've got an engineers most dangerous luxury: plenty. All the computational cycles I'll ever need, easy and rapid prototyping. Precision tools. What I've got here are my own constraints. I'm challenging myself, using found objects and making stuff that throws all this computational capacity at, you know, trivial problems, like car-driving Elmo clusters and seashell toaster robots. (p. 20).

And we can see this not-so-distant future economy of abundance coming: Within the industrial economy the tendency has been long under way. Already now, productive capacity for most commoditized industrial components has been generalized to the extent of pushing profit margins close to zero.³ Today we see how this new ability to make things is spreading out of the sweatshop districts of the South East. Driven by the share availability of techno-junk to recycle, and empowered by a booming Open Design movements, and new hot technologies like the rep rap 3D printer or the Fab Lab system, hardware hacking spaces are

proliferating everywhere, and we can see the beginnings of a new Maker culture that attracts (mostly) young people into a kind of neo-artisan, high tech version of material production. (But we don't even need this scenario, Alibaba.com and a number of similar sites offer rapid access to Chinese producers willing to make and ship your designs in small series. You can pay by PayPal and even chat with their technicians via a Mandarin-English translation interface.)

As Doctorow suggests, it is just a matter of time before capital, corporate or venture, discovers this potential new boom, just as it built the dot.com boom of the 1990s on an existing hacker and new Media art culture. So, yes, we are likely to see things like Kodacell in the future. After all what else should big corporations do. If the Maker revolution that Doctorow envisions is true, then large corporations are set to lose their monopoly over material production (again, this is already happening), just as already now they are losing their power over innovation and brand.

The question is rather, can a corporate-funded New Work movement be sustainable? In the second part of the novel *New Work* is over, but we are never told why. At the same time Lester and Perry tinker away within a rapidly deteriorating urban wasteland where homelessness, squatting, and petty crime has become the norm, and where a growing majority of the population are excluded from the value flows of the corporate economy (sounds familiar?). The problem is of course that to the extent that material production becomes generalized, then the ability to create value comes to reside either with the ability to erect and maintain artificial monopolies, like in the case of intellectual property rights, or with the ability to organize complex flows, which is the privilege of the managerial class. Even if he never makes this point explicitly, Doctorow seems to suggest that a capitalist economy of abundance is unsustainable precisely because it tends to restrict the reach of its value flows to a privileged managerial elite, thus not only leaving everybody else without access to the goods, but also effectively undermining the kind of effective demand that could sustain *New Work* as an ongoing reality. In *The Makers* the state is absent, we don't have a new New Deal, there is no intervention that drives this new productivity in a direction where it can address the problems connected with a transition to sustainable systems, and thus open up a plethora of new markets. And eventually it collapses for lack of demand. Instead we are left in a post-capitalistic wasteland where itinerant work crews address basic needs on a local, self-organized basis, and perhaps build the first foundations of the post-capitalist economy of abundance that Doctorow described in his previous novel, *Down and Out in the Magic Kingdom*.

Notes and references

- ¹ R. Barbrook and A. Cameron (1995), *The Californian Ideology*, available at http://www.alamut.com/subj/ideologies/pessimism/califldeo_1.html, accessed 1/2/2010.
- ² C. Doctorow (2003), *Down and out in the Magic Kingdom*, New York, Tor Books.
- ³ E. Hunting, *How open manufacturing is related to the end of neoliberal globalization*, available at <http://blog.p2pfoundation.net/how-open-manufacturing-is-related-to-the-end-of-neoliberal-globalization/2010/01/20>, accessed 20/2/2010.

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