

## Cory Doctorow on technological immortality, the transporter problem, and fast-moving futures

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Cory Doctorow has made several careers out of thinking about the future, as a journalist and co-editor of Boing Boing, an activist with strong ties to the Creative Commons movement and the right-to-privacy movement, and an author of novels that largely revolve around the ways changing technology changes society. From his debut novel, *Down And Out In The Magic Kingdom* (about rival groups of Walt Disney World designers in a post-scarcity society where social currency determines personal value), to his most acclaimed, *Little Brother* (about a teenage gamer fighting the Department of Homeland Security), his books tend to be high-tech and high-concept, but more about how people interface with technologies that feel just a few years into the future.

But they also tend to address current social issues head-on. Doctorow's latest novel, *Walkaway*, is largely about people who respond to the financial disparity between the ultra-rich and the 99 percent by walking away and building their own networked micro-societies in abandoned areas. Frightened of losing control over society, the 1 percent wages full-on war against the "walkaways," especially after they develop a process that can digitize individual human brains, essentially uploading them to machines and making them immortal. When I talked to Doctorow about the book and the technology behind it, we started with how feasible any of this might be someday, but wound up getting deep into the

questions of how to change society, whether people are fundamentally good, and the balance between fighting a surveillance state and streaming everything to protect ourselves from government overreach.



***Walkway* feels timely in terms of present politics and sociology, but the technology is more theoretical. How much of this future do you consider plausible?**

Oh, the technology is the most hand-wavy stuff in the book. It's probably easier to identify the stuff that's least plausible, like consciousness uploading. If our consciousness isn't inextricably tied to our bodies, we have no good way to know that, apart from wishful thinking. That sort of thing should always be looked at suspiciously as a metaphor, and not as a prediction. When we were making steam engines, we were all sure we could make a

steam-powered brain. We had a lot of other different versions of this in fiction at different times — it always turns out by this amazing coincidence, we think whatever technology we use every day is the best way to understand our own cognition. The most common technology of the day is definitely the thing that is most like our brains, rather than something coming up in the future. So I'm deeply, deeply skeptical of the idea that our brains are things that we'll put in computers.

But we do live a lot of our lives in the digital realm. We project our minds into the digital world. So as a metaphor for understanding who we are and how we relate to other people, consciousness uploading is a useful metaphor. Machine-learning-based vision systems are getting better at recognizing objects. Like a lot of fast-growing things, we don't know if it's on an S-curve or a J-curve. Is it going through a burst of productivity that will reach an actual limit and then taper off, or are we in some crazy exponential curve that will just go up and up, with machine learning getting better and better, and delivering more and more dividends? We can't answer, because a lot of what we're getting out of machine learning right now is incremental, but some of it is breakthroughs. It's got that sexiness factor, where a bunch of people who would have historically not given a shit about machine learning are suddenly looking really closely at it, discovering easy wins that were invisible to earlier practitioners. Maybe there will be all new kinds of amazing discoveries.

Other things in *Walkaway*... All of the biotech stuff, like turning urine back into beer, that feels like something within the realm of CRISPR hackers. It's something they might attempt, though maybe not pull off to the extent that I would drink what they made. CRISPR is one of those brands where there's so much crazy, awesome, interesting stuff, and also so much hot air and bloviating that it's hard to tell what's hand-waving and what's real. As a fiction writer, that's my sweet spot. Exciting, expansive, fast-moving, and full of bullshit? That is science-fiction-writing gold, right there. Everything you write about it sounds eminently plausible.

**With the first *Homeland* book, it felt like you were suggesting real ways to resist surveillance overreach and react to real politics. *Walkaway* deals with similar issues, but in a far more speculative way. Can readers learn anything useful from *Walkaway* about dealing with current economic and power inequities?**

Consciousness uploading in *Walkaway* is not a solution — more like a McGuffin. Nobody really solves any problems with that. They solve problems with ethics and social movement and organizational tools, with communal living and unselfishness and commitment to abundance. Having AIs that act like house elves is just fashion. But other things they do, like using networks to build flexible political groups that allow them to pool their labor, I think if we're going to have a resistance, that's the resistance. That's what we get out of technology.

I've had years of debating with friends in political movements about whether technology is a distraction. Malcolm Gladwell wrote a column about how real activists lay down shoe leather ringing doorbells. They don't post online petitions. But the reality is that if shoe-leather is needed, the way you mobilize it is with networks where you can find people who want to go and ring doorbells. And anyone who says, "Well, I don't know why I would use a communications tool that will allow me to find people who feel the same way I do anywhere in the world, and recruit them to my cause, I just want to ring doorbells," that person is talking out of their ass.

**In the book, you don't address the usual problem of human brain duplication, which is basically the transporter problem — if you make a copy of yourself and destroy the original, is the new one really you, or are you dead? How do you feel about that question personally?**

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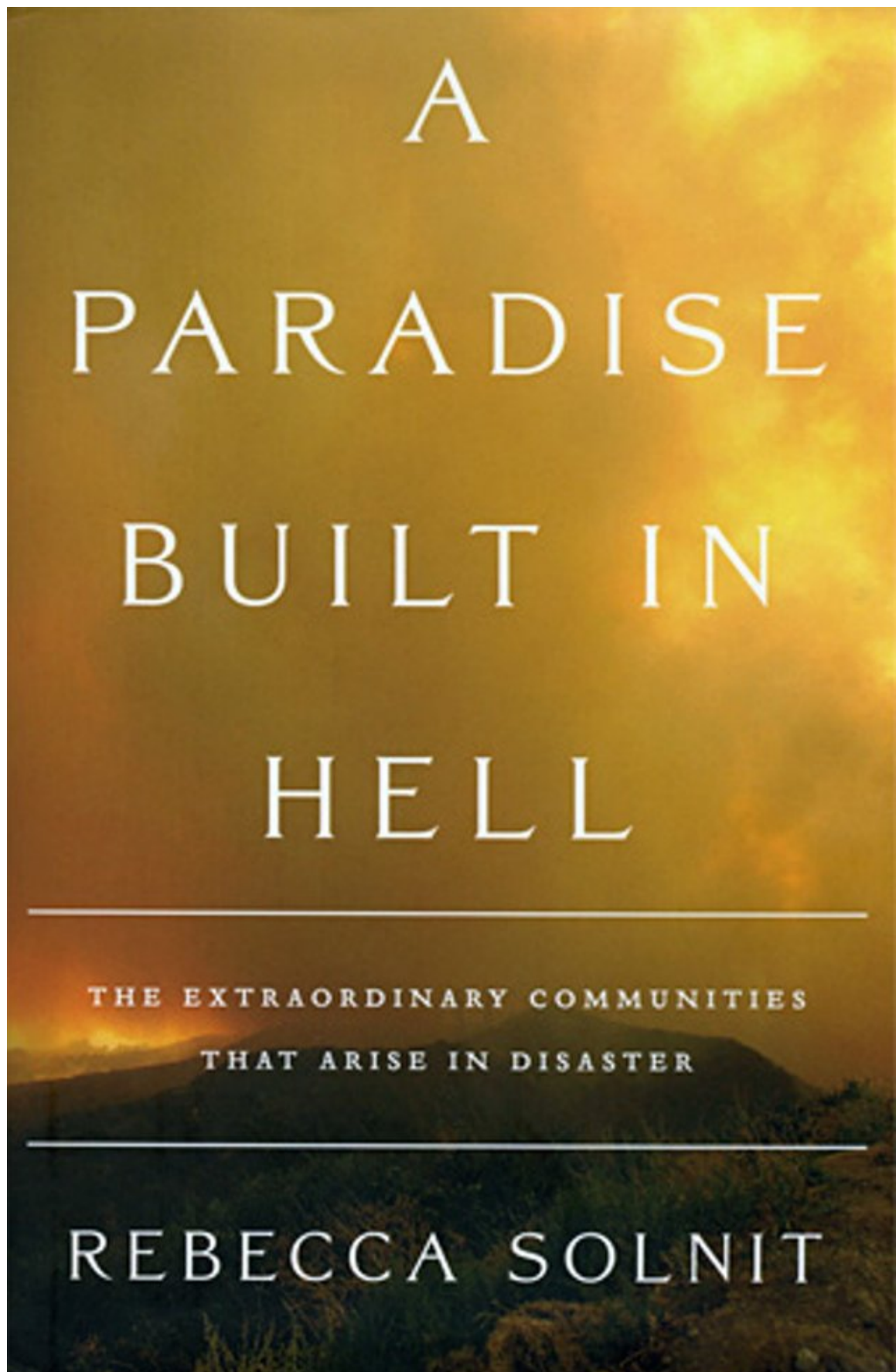
**walkaway**  
**cory** A NOVEL  
**doctorow**

*NEW YORK TIMES* BESTSELLING AUTHOR OF *LITTLE BROTHER*

I have this super-glib answer, which is, “Everyone who cares about that will die.” If immortality is only available to people who don’t care about that stuff, just wait a hundred years, and all the people with moral quandaries about it will be dead.

My thoughts on it are that if your hypothetical transporter had hypothetical characteristics that made it like murder, it would be like murder, and if your hypothetical transporter had hypothetical characteristics that didn’t, it wouldn’t be. It’s your Gedankenexperiment, you give it the contours that you want it to have. I wrote an essay about this once, specifically about a classic science-fiction story called *The Cold Equations*, and how it omits the writer’s hand outside the frame, manipulating things so there’s only one answer to their problem. The inevitability of *The Cold Equations* is not the inevitability of the universe. It’s a contrivance. If you have a thought experiment and it’s clear that it can really only be answered one way, our next question should be, “Why did you structure your thought experiment that way?”

**One of the three books you’ve often cited as inspiring *Walkaway* was Rebecca Solnit’s *A Paradise Built in Hell*, about the positive, generous ways people respond to crisis, and how people in power usually make crisis worse by attempting to stabilize situations with heavy-handed measures. How early in the process of writing this did those parallels occur to you?**



The elements of *Walkaway* were self-assembling in my subconscious out of things I wrote for Boing Boing and things I have seen in the world, whether they were at Maker Faire or Burning Man or on the 9 o'clock news. Solnit's book helped crystallize a lot of those ideas. I started actually writing this book by re-reading *Down and Out in the Magic Kingdom* and thinking about what story I could tell about how that society came into being. That primed me to start noticing things in the world that hinted at the kind of story.

I'm filling in the blanks between our present day and *Down and Out in The Magic Kingdom*. I got as far as *Walkaway*, and I want to stick a pin in the board there, or hammer a piton into the side of the cliff, to help me find the next step there. My theory of change in my activist work is that there's no point charting a course from A to Z, because the world is dynamic. If your course from A to Z works now, by the time you get to M, everything from M to Z will have rearranged itself. You're going to need a new plan. And so my view is, you do hill-climbing. You find that step you can take that makes the world a little better, that gives you a slightly more advantageous position, and then you see from there what your next step might be. In my activist work, I'm going from A to B. In my imaginative fiction work, I'm going from Z to M. Maybe they'll meet in the middle? It's just very abstract.

**One outgrowth of that expansion is that in your writing in general, you often dig deep into what one technological change does to the world, then zip past the next few, because that first change makes things alter so fast that there's no time for consideration. Does that approach in fiction come out of your attitude about radical technological change?**

Yeah. I do think things are intertwined. I think it was Arthur C. Clarke who said if an old, well-established scientist says something is possible, they're probably right, and if they say something is impossible, they're probably wrong. The world is weirder than we tend to extrapolate. We make thought experiments that are stripped-down models, where a small thing changes another thing and then stops there, as opposed to rippling outward and making interference patterns with other changes. Like Gardner Dozois said, a science-fiction writer should see cars and cinemas and not only predict the drive-in, but also the sexual revolution. And it occurred to me one day that in the 21st century, the major effect all of those things that lingers isn't the sexual revolution, the car, the drive-in, or the cinema. It's the fact that because the sexual revolution necessitated a driving license, for the first time in American history, civilians started requiring government-issued ID, and that created the entire modern bureaucratic surveillance state. So if you really want to be a real badass science-fiction writer, you should predict that hitching government-issued credentials to the procreative act would profoundly change our current world more than anything else.

**You've said you consider science fiction to be a sort of social-engineering fly-through of possible technology. Once you've considered what technology or social issue you want**

**to write about, at what point do the characters come in for you?**

Well, here, I'm trying to get people on an emotional fly-through here. *Walkaway* isn't about the impact of technology, so much as a shift in our social mores toward the belief that your neighbors are part of the solution, and not the problem. Competitive market economies create amazing productivity gains. We talk about how wasteful capitalism is, and how much pollution it produces, and so on, but if you look at any material object that you use that's been made in the last five years — a car, a refrigerator, whatever — the labor, energy, and material inputs to that object are an infinitesimal fraction of what they were when we were born. And that is an astounding accomplishment.

So market capitalism works really well. But it has a failure mode, and that failure mode is to pit us against one another so we have adversarial exclusive destinies, where my success is your loss. And that produces this world where when things go wrong, instead of turning to your neighbors, you run away from them. And we can't solve our problems without our neighbors. All those preppers who have bugout bags so they can run for the hills when the lights go out, those people are crazy, because if they get a burst appendix or bad stuff in their water, they can't solve their problems. Society is built up by having a variety of perspectives and expertises all convened under one roof, as opposed to each person for themselves. So the emotional fly-through here, where the characters come in, is in figuring out what would it be like if in a crisis, you turned to your neighbor and asked them how you could help them, and the two of you got together to help the next person you could find. Which I think going back to Rebecca Solnit, that's what we do in a crisis, but it's not what we *think* we'll do. It's statistically illiterate to imagine that most people are bad, when most of the people you know are good. What are the odds that you would happen to know the very, very rare good people out of a pool of extremely bad people, as opposed to you knowing a fairly representative slice of people?

**Is there a technological solution for what you call the “virtue deficit,” the fear that other people are probably bad and can't be trusted?**

The leaderboard system in *Walkaway* [where people are competitively rated by what they contribute to a collective] is a really good example of how technology can pit us against us. One of the things I'm really interested in is how the different frameworks of our social media produce different outcomes. So Twitter shows you the number of followers people have, and that's seems to be inextricably tied to social media. It's very rare now to find a social technology that doesn't show you how many followers people have. Tumblr doesn't, which is super-interesting. If you're on Tumblr, you don't know how popular another Tumblr person is. Flickr was one of the first social technologies, but it marked itself out from things like MySpace by refusing to allow you to see how many followers other people had. If you're making a technology about being sociable and finding your authentic self and

expressing it to other people, then creating a system where people can easily compete to see who's the most popular runs antithetical to it. I think social media has optimized a mechanism for being compelling without being enjoyable.

I can spend endless hours on Twitter, even though I'm not enjoying it. The maximization of engagement rather than pleasure has been a hugely transformative and not-for-the-better shift in the way we do application and technology design. If we want to make technology that encourages pleasure instead of engagement, or cooperation instead of competition, there are conscious choices we can make. We'll reach some natural limits. People become adapted to whatever kinds of social rewards they get from our technology. We tend to forget, when a new technology sweeps through our world like a bonfire, that we'll become inured to it, and it'll cease to be impressive or compelling. Old ads for soap basically said, "Buy soap and you will be clean." Talking about the value of the product used to be a fantastically persuasive technique. But through exposure, we became inured. Today, if you want to advertise soap, you do it like Axe body spray: "spray this on your body and women will *throw* themselves at you!" It's like a junkie chasing a high — a dose that used to make us feel great now just makes us feel normal. We become inured to a lot of these technological techniques for manipulating our emotional states.

There are always people at the margin who don't become inured. A lot of people will try a casino game and find that mechanic really compelling, until they realize they won't win in the long term, and walk away. But other people are unable to disengage, and become problem gamblers. So are we going to use technology to make ourselves better or worse? We'll find some techniques that people are broadly vulnerable to, or receptive to, and minorities of people will be susceptible to them in very profound ways, or will be totally immune to them. And then we'll develop new techniques, and they'll go in both directions to make us better and make us worse. But that doesn't mean that they won't make us better or worse. It just means that they create this boom-and-bust cycle of making big changes that become smallish changes that then beget a new big change.

**Speaking of walking away from something that doesn't give you long-term gains, the hardest thing for me to buy in *Walkaway* wasn't brain uploads, it was the idea that you could put your heart and soul into building something, and then just quietly walk away if someone else tried to take it. It's a radical philosophy throughout the book, but ownership is so baked into American culture — the twin ideas that having things makes you important and happy, and that if you make something, you deserve it. How would you convince someone to walk away from something they made and care for?**

Well, they're walking away from the physical reality of the home they've built, but not the digital afterlife. So they're like programmers who fork open a project because they can't agree with one another. Yeah, they walk away from the server where their code is running,

but they don't walk away from all the knowledge they gained making it, or the individual talents they've honed. They walk away to do something better.

It's a bit like the rationalist community, who are trying to find a way around our cognitive blind spots, to apply behavioral economics to get people to do what will be best in the long term, instead of what your emotions tell you is best in the short term. The reality is, when you look back on people who have done amazing things, they usually walked away from several failures in order to get there. If you want to triple your success rate, you triple your failure rate. Walt Disney had to walk away from Oswald the Lucky Rabbit, which was owned by the studio he worked with, so he created Mickey Mouse. And if it wasn't for that failure, he would have been a middling cartoonist drawing Oswald the Lucky Rabbit for the rest of his life. There are a lot of those failures in the lives of people who have very successful careers. Elon Musk was forced out of PayPal. That stings a lot when it happens. But everyone who's found true love, with very few exceptions, walked away from times when they thought they found true love, and it turned out that they hadn't.

Today, there's a lot of big movement for successful people to admit their failures, rather than paper over them, and to talk about their other challenges, like depression and mental illness, as opposed to pretending to be super-people who have no problems. That's part of it, helping people understand that you do have to write off a lot of failures on your way to success. In *Walkaway*, you also cushion the blow by having technology that makes it easier to salvage the best parts of the things you walk away from.

**Streaming technology becomes vitally important in *Walkaway*, and there's a tension between the surveillance state, where the rich can track everyone else's movements, and the ability to broadcast your reality to get past news filtering and censorship, and show people what's really going on. It's notable that our government is simultaneously trying to keep us from recording things it doesn't want seen, and trying to record and examine everything we do.**

I think that just tells you that their arguments are self-serving bullshit. When they say, "Well, we don't want you to record the police because it puts them at risk, or it interferes with their job, or they have the right to privacy," and then they say, "By the way, your privacy is totally worthless," they're having their cake and eating it too. And there's another framing for this, which is that when you do the people's business with a gun on your hip, the people have a right to know what you're doing. And when you are the people, the government doesn't have the automatic right to know what you're doing. That's actually not a novel prospect. That's a thing baked into the US Constitution. Transparency for the strong and privacy for the weak. That's the Fourth Amendment.

**On a lighter note, like one of the things that I really enjoy about the book is the**

**emphasis that you put on people creating art even in the most crisis-ridden circumstances. There are a lot of details in that vein. What made that aspect of creativity interesting to you?**

Well, that's certainly the world I inhabit. Everyone I know has laptops covered in stickers. When laser cutters first came along, everyone was engraving everything they could engrave. We do ornament our things, especially in times of adversity. Some of my very favorite art in the world, like vintage folk art, is trench art. Stuff that comes out of World War I, where people made things out of bullet casings. Prison art is amazing, and so are the paintings flyers put on the nose cones of their fighter planes. One of the things that was really formative to me was a book of poetry by children in Auschwitz that was circulated when I was a kid. I went to a socialist Yiddish school, and we read these poems that had been written in Yiddish by these kids who all died. They had teachers who convened classes to keep the kids occupied, and they wrote poetry. In every kind of adversity, you get people making art. It is really a universal trait, and it particularly manifests in times of extrema and adversity.

**Activism is important right now, but so is optimism. What about the tech world right now gives you hope for the future?**

It's really easy to focus on the terrible things people do with social media, for the same reason that it's really easy to focus on the turd floating in the punchbowl. But when I reflect on my experiences of networks, communication, and media, over and over again, it's people coming together to help one another. And it's true that a few people acting very flamboyantly badly can make it easy to forget, or even cancel out some of the benefits there. But over and over again, when there's a disaster, when someone has a personal crisis, even the people who — like, I look around on Tumblr and every now and again there'll be someone who will write a post about their depression and then other people will come in and kind of comfort them and help them out. It's just such a motif that's easy to miss. When you see it it's so obvious, and once you start looking at it, you see it everywhere. And so that I think that's a thing that gives me hope, that the evidence of our fundamental goodness is there on the network for us to see. You have to look past all of the shouting and the anger, which obviously loom large and it looms large for really illegitimate reasons. And I'm not saying that it excuses, but the nobility should give you hope that the people who are kind and good are in the majority and it's a matter of figuring out how to use the technologies but it doesn't create a false multiplier for the minority of bad actors, so that the rest of us can get on with the business of our ancient dream of our species, which is collaborating to make the world better.

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