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Chris Oestereich

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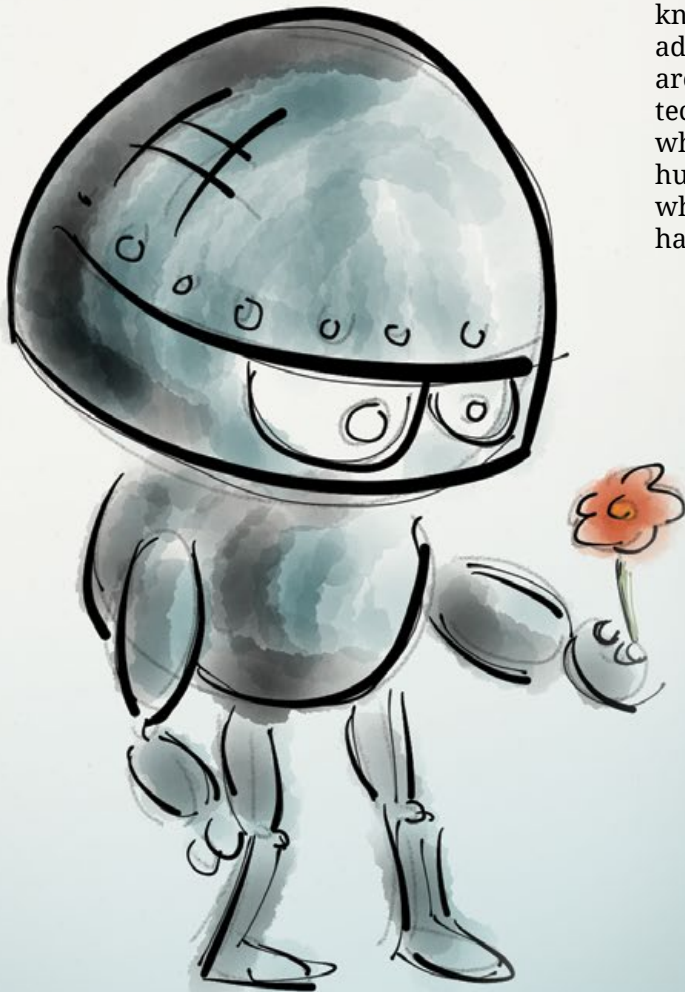
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# Tech to the Future: Is It Time to Curb the Tech Bandwagon?

By Chris Oestereich

Technology is a broad concept. We tend to think of it in terms of the flashy new devices, but it's so much more than that. Generally speaking, it's a lever through which we apply knowledge to gain benefits. Major advances throughout human history are obvious reminders of the things tech has enabled. From the time when ploughs pulled humanity from hunting and gathering, to the era in which cars congested our cities, tech has continually pressed forward.



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Recently, we piled up advances that are so central to our modern lives as to now seem obligatory. I purchased a tablet believing it would allow me to leave my laptop at home most of the time. Now I carry both—as well as my smartphone—most of the time. Those devices have become like false appendages that I can't let go of. The pain would be too much to bear.

I spent an hour or so at my country's embassy recently. While I was there, I had to leave my phone at the door, while the rest of my devices gathered moss at home. As I sat in the waiting room waiting for my number to be called, I started humming "While My Smartphone Gently Beeps" (apologies to George Harrison), and hoping someone would paint a wall so that I could watch it dry. No one obliged. Then again, it was probably for the best. Given my then torporous state, such stimulation might have been too much to bear.

Prior to such advances, I used to get bored all the time. As a writer with diverse interests

and a smartphone, I rarely do so now. The device's connectivity provides an unbounded window of interestingness from which to view the world. The only problem now is in deciding which interest to pursue.

We're entering an era, or at least we appear to, in which change seems set to come at us faster and "furiouser" than ever before. Whether that will lead to largely positive gains for humanity remains to be seen. Regardless, when it comes to tech, we should consider the possibility of collectively having more of a say in what is or isn't developed. As it is, we're essentially passengers in a driverless car that someone else is navigating. That may have worked out in the past, but as tech creeps ever further into our lives, we need to consider whether it's a good route forward.

If the bulk of the worrisome tech-related news from recent years came as whispers into our ears suggesting that maybe something was amiss, then Cambridge

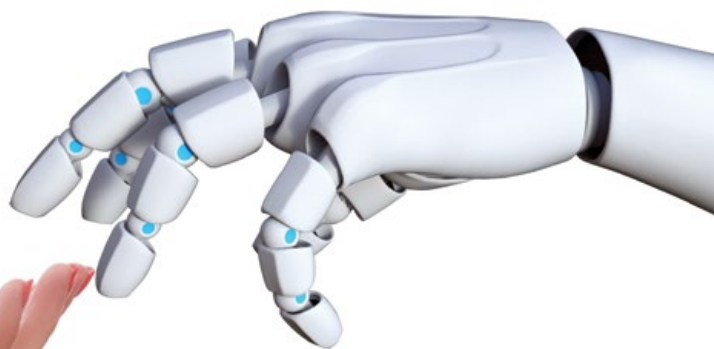
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**When it comes to tech, we should consider the possibility of collectively having more of a say in what is or isn't developed. As it is, we're essentially passengers in a driverless car that someone else is navigating. That may have worked out in the past, but as tech creeps ever further into our lives, we need to consider whether it's a good route forward.**

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Analytica's dalliances with our data unleashed a relative foghorn into our eardrums. While we were giving away our predilections, Facebook was building our virtual doppelgangers and seemingly selling them to anyone who could fog a mirror.

That debacle left me feeling like Amazon's cackling Alexa devices were, relatively speaking, something of a joke. Then again, Amazon has patented





a system that would listen to conversations and build profiles of their customers' preferences, so maybe the joke will eventually be on us.<sup>1</sup>

While we're on the subject, Alexa, Siri and Google Assistant can all be given commands at frequencies that are inaudible to the human ear.<sup>2</sup> This opens—or unlocks—the doors of web-enabled security systems, and introduces a host of other problems like ordering things online with your accounts. Given that, it's worth questioning what those services have access to if you use any of them. For instance, although Google's Duplex has yet to be released, the appointment making AI, with a human-sounding voice, ruffled enough feathers through its recent demo that Google announced the service would identify itself when it went live.<sup>3</sup>

By now I may come across like something of a Luddite—people who are opposed to new technology—and while history's Luddites are blamed for wanting to stop technological advances, that's apparently not the case.<sup>4</sup> Nor is it what I'm after. To get to that, I need to start by taking a step back in time.

When I was growing up, I saw tech largely, if not wholly, in positive terms. It was a force for good that made our lives easier, while expanding the possible. Tech was the thing that took us out of the caves and pointed us to the stars, and it would only ever lift us higher.

As I grew older, however, I started to view tech differently. Yes, it was still a source of much good in the world, but over time I realised it could also foster plenty of challenges.

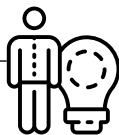
I began to think a bit about the genesis of individual advances and the ways in which it was actually used. That helped me see that the same technology could be used for good or ill. The question became about the aims of the user or the outcomes that occurred.

Recently, a third view crept in, and it is one that challenges the value-neutral perspective. The question that underpins this new view is: when programmers and other developers of tech are not aware of their own biases, how do they keep them out of their software? The short answer to that question is: they do not.<sup>5</sup> Unfortunately, biased humans create biased systems—often unwittingly so. But while a question of intent matters from a moral perspective, bad outcomes are all that really matter.

The classic trolley problem from the field of ethics provides a useful example. The problem has many variants, but the core problem generally puts you at the wheel of a trolley that is about to run over several people. You can flip a switch and save those people, while sacrificing someone else in their place. Driverless cars will have to make such choices. What rules will govern those decisions and what biases will be embedded in those rules?<sup>6</sup>

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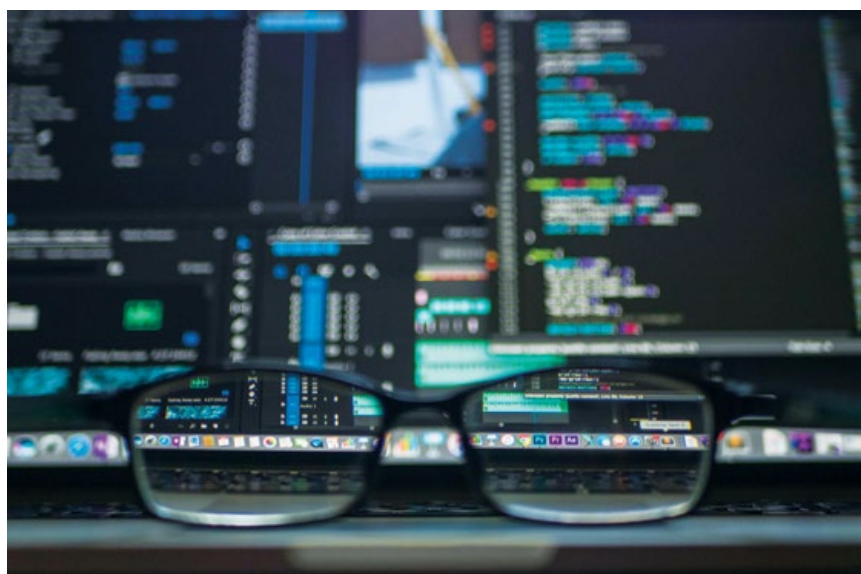
Given my concerns, I spend a lot of time reading and thinking about the potential consequences of tech. Maybe too much time. Ideas introduced to mass consciousness through sci-fi movies like *The Terminator* and *The Matrix* give rise to worries of destructive forces that could escape the control of humans. While such nightmares are easy to grasp, and they seem far less fantastic than they once did, they are not the sorts of things that hold my attention. Instead, the ideas that are stuck in my head would not make for much of a summer blockbuster.

What keeps me up at night are worries of things like the rapid upheaval of multiple industries. Some argue about the effects of a full, rapid changeover of something like a city's taxis from driven to driverless. But that argument seems a strawman, as the challenges for workers would hit long before a transition were complete. If a city had 1,000 taxi drivers and one firm chose to replace 10 per cent of them with driverless cars, there would suddenly be 100 drivers choosing between competing for the 900 remaining taxis for work, or looking for it elsewhere. They might look to the trucking industry to ply their skills, but even if driverless trucks were not there yet, the tech would represent a constant threat. The ultimate effect would be a game of musical chairs, in which driven vehicles were removed from the game and leaving drivers fighting over "chairs" that were worse than

the ones they had to give up. What fun.

Driverless cars are just one area in which good jobs are threatened. As Artificial Intelligence (AI) advances, will it facilitate the further erosion of well-paid management positions? Some suggest that such innovations will create more good work than it destroys. If it does, great. But what if that expectation makes a U-turn?

In looking beyond economic concerns, evolving surveillance capabilities are one of my biggest concerns. China's "social credit" system tracks behaviours like jaywalking and assigns scores that give discounts to things like energy bills. On the other hand, those that score poorly can be kept from buying plane tickets and Internet access. Alongside that, they have recently started using





We could perhaps consider moving from a largely permissive regulatory environment, in which firms and individuals are allowed to develop whatever tech they see fit, to one in which permission must be granted to develop tech in areas which it is deemed dangerous or otherwise problematic. ... We also need to think about what we don't want from tech, and how we might discourage those efforts.



CCTV cameras to identify and fine jaywalkers through the use of AI that identifies faces from the video feed.<sup>7</sup>

And in an era in which the term “fake news” is constantly bandied about, fast-evolving video and audio manipulation systems are already producing credible fakes. That there are some who would like to use such systems to foster conflict seems obvious. Due to this, the Defense Advanced Research Projects Agency (DARPA), a unit within the US Department of Defense, is working to create a platform that will help avoid such conflicts. But as they race against the clock to create an automated verification system, the tools to create the fakes already exist. And even though

they have counter systems in place, which may help keep things from getting out of control between governments, how will they rein in a viral video that whips people up into a frenzy?<sup>8</sup>

I bring these worrisome possibilities up because they point to an important question: what can we do about it? We could perhaps consider moving from a largely permissive regulatory environment, in which firms and individuals are allowed to develop whatever tech they see fit, to one in which permission must be granted to develop tech in areas which it is deemed dangerous or otherwise problematic. This could be inefficient and prove anti-competitive, but a system

designed to mitigate potential dangers from tech could be crafted with those concerns in mind.

Fortunately, it is not all bad news. There are plenty of interesting technologies on the horizon that promise a variety of benefits. For instance, recent scientific discoveries around genetic factors that raise a person's risk of depression give hope for new treatments.<sup>9</sup> Drones offer visibility into disaster areas that can aid rescue efforts.<sup>10</sup> Advances in high-temperature superconductors may bring low-cost, carbon-free energy via nuclear fusion.<sup>11</sup> And the unit cost of solar is now half that of coal, at least in the US.<sup>12</sup> The list goes on.

In the meantime, I believe we need to spend more time thinking about what we want from tech, and encourage related progress. We also need to think about what we *don't want* from tech, and how we might discourage those efforts. As to how we should go about it, we can figure that out if we collectively decide it is worthwhile.



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