

Forget Zombies. The Real Threat to Humanity Is Robots

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Theme: [Science and Medicine](#)

In late October, New York's Cooper Union hosted a two-day conference on "Techno-Utopianism and the Fate of the Earth: Why Technology Will Not Save the World." [2] The event, convened by the International Forum on Globalization, featured more than 50 speakers from 15 countries, with keynote speeches by Bill McKibben and Ralph Nader. I spoke at the end of the first day. My topic was "Robots, Nature and The Singularity." [3]

It was nearly midnight by the time I left the auditorium. On the way back to my hotel, I stopped at a 24-hour CVS pharmacy to pick up two late-night essentials: a bottle of aspirin and an energy bar. But when I approached the checkout counter, there were no clerks to be seen. Instead, there were two gleaming devices equipped with flat-screens and automated optical scanners silently waiting to process my purchases.

Robots!

I stopped in my tracks. Sensing my confusion, a young employee appeared and offered to guide me through the process of checking out the new checkout system. [4] I realized, with a twinge of guilt, that the young under-waged employee was being forced to teach me to use a machine that was clearly designed to put her—and thousands like her—out of work.

As I approached, the machine directed me to select a language (English and Spanish were the only options). Following the robot's instructions (delivered in non-threatening a Siri-like cadence), I scanned the barcode on the bottle.

"Please place your purchase in the bag," she/it instructed. I noticed a stand to the left holding a large number of plastic bags.

Now, I'm from California. We don't use plastic bags in the Golden State. So I left the aspirin bottle where I had placed it and grabbed the energy bar. But when I tried to scan this next purchase, the robot spoke again—this time, sounding slightly peeved.

"Please place your purchase in the bag!" it repeated. It would not let me scan my second purchase until I followed instructions to place the aspirin bottle in a non-recyclable bag large enough to accommodate two watermelons.

I overcame the impasse by removing the bottle from the scanning platform and hiding it on the metallic bottom of the bagging area.

Transaction complete, I inserted a \$20 bill in the appropriate electronic slot and, lo, the exact change spilled into a plastic tray, along with my receipt.

Pocketing my purchases, I exited onto 33rd St., feeling mildly humiliated and vaguely unclean. After all, just two hours earlier, I had been warning a large audience that the rise of robot technology threatened to replace humanity with microprocessors and algorithms and now I had just engaged in a consensual transaction with a robot salesclerk.

Big box stores and the robot bandwagon

While robots have been around for a long time, they've mostly been hidden away inside automobile factories and distribution outlets, only occasionally making modest public appearances as ATMs, Furbies and Roomba vacuum cleaners. But now, robots are starting to emerge from the shadows to infiltrate our brightly lit shopping aisles. Increasingly, robots are taking up strategic positions behind the counters of shopping centers, hotels, airports, and fast-food chains.

The Robot Revolution is well underway in most of the country's large retail operations. CVS, Best Buy, 7-Eleven and Walmart are all engaged in robotizing the retail experience. In fact, these four retail giants have gone so far as to form a "mobile-self-checkout" system that empowers robo-clerks to take your money—whether by card, by cash, or with the wave of a smartphone—and send you on your way. [5] Also hopping on the robot bandwagon, Home Depot and McDonald's. With this kind of market saturation, robots are on track to displace millions of low-wage, entry-level jobs.

And it won't just be salesclerks looking for work. In his *Robotic Nation* blog [6], Marshall Brain notes that the professional ranks will also be threatened by tin-skinned replacements. "Pilots will be the first to go," Brain predicts, "because pilots are incredibly expensive and their jobs are largely automated already." Brain's forecast: Within a few years, most of the 66,000 members of the Air Line Pilots Association will be grounded.

Under the pressure of competitive price-cutting, Brain predicts every big box retailer—Walmart, Kmart, Target, Home Depot, Lowe's, BJ's, Sam's Club, Toys "R" Us, Sears, J.C. Penney's, Barnes and Noble, Borders, Best Buy, Circuit City, Office Max, Staples, Office Depot, Krueger's, Winn-Dixie, Pet Depot—will eventually shift to automatic (aka "self-service") checkout lines. The transition could take less than five years and could throw as many as 10 million low-paid employees onto the streets.

The consequences could be wrenching, as exiled whistleblower Edward Snowden recently noted in a Moscow hotel interview with *The Nation*. "As a technologist, I see trends," Snowden stated, "and I see that automation inevitably is going to mean fewer and fewer jobs. And if we do not find a way to provide a basic income for people who have no work. . . we're going to have social unrest that could get people killed." [7]

(Perhaps this explains why the Department of Homeland Security has requisitioned 1.6 billion rounds of ammunition, enough firepower to, in the words of *Forbes* magazine, "sustain a hot war for 20+ years." [8])

When robots give the orders

If the Robo-Barons get their way, the day may soon come when, instead of being greeted by a familiar smile on the face of a clerk who knows your name, a check-out counter encounter will be reduced to a cold and clinical "scan, bag and pay" transaction conducted by a computer-faced automaton. There will be no friendly banter and no eye contact (unless it's

initiated by the robot to obtain a retinal scan for data-mining purposes).

The conversation will be brief, truncated and bloodless. It will sound something like this:

Please choose a language.

Please scan your purchase.

Please place the item in the bag.

Alert! Unexpected item in bagging area!

Please wait for assistance!

Have you swiped your card?

Please insert cash or select payment type.

Please take your change.

Please remove your items.

Thank you for shopping at Auto Max.

The looming likelihood of increasing numbers of these soulless machine-to-human encounters raises a question: When humans start taking orders from robots, who is really the one acting like a robot?

An imminent threat to the working poor

Walmart currently has about 1.3 million workers employed around the world stocking shelves, loading and unloading trucks. Walmart hopes to build its bottom-line by replacing most of these workers with robots.

While the US economy has created scores of new billionaires over the past 40 years, it has done little to improve the fortunes of the 60% of Americans who make up the ranks of the working poor—people struggling to make ends meet on wages that rarely top \$14 per hour.

Some of the most vulnerable US workers are found in the food industry where the National Restaurant Association (“the other NRA”), has fought every attempt—at the state, federal, and local level—to raise the federal minimum wage for “tipped employees” from \$2.13, where it has remained stuck since 1991. [9] Chevy’s, Jack-in-the-Box, Red Lobster and Wendy’s have all lobbied to prevent a federal minimum-wage increase for cooks and waiters. The Colorado Restaurant Association has actually proposed a “guest worker” program that would allow its restaurants to import low-wage workers from Third World countries.

A program called Qthru (aka “queue-through”) allows shoppers to record their purchases right in the aisles by simply waving a smartphone over a barcode. When your shopping is done, you present the total at the cashier-kiosk and pay the robot. These so-called “scan and go” technologies for mobile point-of-sale purchases are being pioneered by Verifone, Square, PayPal, and Intuit, among others.

The globalization of robo-commerce

The march of the robo-clerks is not limited to the US. Automated clerks, sales-bots and toll-takers are already displacing members of the human workforce in Europe and Asia. Tesco, the UK's largest food store chain, has opened the world's first "Virtual Store" in South Korea where commuters can now shop remotely from subway cars and bus stops using smartphones. By 2016, it is estimated that 90% of Britain's phones will be smartphones. In 2014, British shoppers spent £4.5 billion (\$7 billion) on mobile phones purchases—a 584% boost in sales in just two years. [10]

"The adoption of [this] technology is rocketing and a good thing for us to be pioneering," says Ken Towle, Tesco's Internet Retailing Director. "We're full of ideas and we're launching them out to customers just as fast as we can." [11]

In a promotional video touting the arrival of its "Virtual Store," Tesco Senior Marketing Manager Mandy Minichiello insists "the idea came to us from talking to customers. We know they like shopping on-the-go." (Tesco also is plastering walls with life-sized photos of shelves stocked with goods so people rushing to and from work can order home deliveries of food by simply waving their smartphones at the murals.)

With "shopping-on-the-go" customers in mind, Tesco has installed a "Virtual Fridge" at London's Gatwick Airport. [12] The "fridge" appears on an electronic kiosk that shows shelves of products that you can purchase simply by scanning the projected image of a bar code with your phone.

Why Gatwick? Minichiello explains: "On average, you have about 17 minutes when you check in. That's dead time. Now it can be put to really good, efficient use."

In the Tesco video, Minichiello presses her smartphone up against the images on the Virtual Fridge and grins happily. "Did you hear that Bleep!?" she beams. "How satisfying is *that*?! We're just trying to make busy people's lives that much easier."

But is convenience really what this is all about? One wonders when, after the last purchase has been scanned, the kiosk lights up with the question: "Finished Shopping?"

The Robot Apocalypse

In their 2011 book, *Race Against the Machine*, the authors warned: "The pace and scale of this encroachment into human skills is relatively recent and has profound economic implications." [13] Diligent observers of new technology predict the Advent of the Automaton will have an impact as great—or greater—than the rise of Industrial Agriculture or the invention of the Internet.

The long-feared emergence of UARs—Universal Assembly Robots—now threatens a host of traditional human endeavors. [14] Assembly-line workers were among the first to experience the humiliation of being booted off the payroll by low-overhead, plug-in replacements. Now it's low-paid store clerks and fast-food hirelings who stand to be pushed aside to make room for bloodless humanoids that won't unionize and won't demand a livable wage, medical insurance or a pension.

Apparently, not even "Green Capitalism" is immune from the lure of automation. A billboard near a Flextronics solar panel plant in Milpitas, California, proudly boasts of "bringing jobs

and manufacturing back to California!” but the plant’s 24/7 assembly line only employs a few actual humans. Most of the workers are robots. Meanwhile, Earthbound Farms, in the California town of San Juan Batista, has installed robots to stuff organic lettuce into shipping containers. For each robot installed, anywhere from two to five humans may be laid off. [15]

C&S Wholesale Grocers, the country’s largest grocery distributor, has already started assigning robots to whiz through its warehouse aisles to locate, package and ship everything from frozen foods to Q-tips. And the thousands of human employees racing against the clock in Amazon’s massive warehouses better start looking over their shoulders. Robots are coming for their jobs, too. In 2012, Amazon acquired 1,000 robots to fill customer orders. In June 2014, Amazon announced plans to have 10,000 robots doing its fulfillment work. [16]

And, thanks to Kinect (Microsoft’s new motion-sensing technology originally developed for videogamers) robots can now identify and process physical objects at speeds that will put Fed Ex and UPS employees to shame—at the same time it puts them out of work.

Within a few years, thousands of Foxcomm workers assembling Apple iPhones in China will be replaced by millions of robots doing the same work quicker and cheaper. As Foxcomm head Terry Gou told China’s Xinhua news agency: “As human beings are also animals, to manage 1 million animals gives me a headache.” [17]

The Obama Administration seems not to apprehend what is at stake. Tom Kalil, deputy director of the White House Office of Science and Technology Policy, recently observed that the only way for US technology to remain competitive “is if we have higher productivity.” Tell that to somebody who has just been replaced by robot.

The economic recovery following the 2008 recession has been based largely on the growth of jobs in the minimum-wage sector. People have returned to work, but these jobs are frequently part-time gigs that pay less and offer no security and few-if-any benefits. Now, thanks to robots, even these jobs may have a limited shelf life.

San Francisco-based Momentum Machines has created a robotic fry cook that can pop out as many as 360 burgers per hour. Momentum’s dishwasher-sized machines are not only fast, they can turn out a customized burger complete with all the trimmings, wrapped and ready-to-go. That translates into three full-time, behind-the-counter cooks moved from the “orders line” to the unemployment line. Momentum’s marketing division has put a Techno-Utopian spin on this development by announcing: “The Next Generation of Fast Food: Our Technology Will *Democratize* Access to High Quality Food Making It Available to the *Masses*.” [18]

Resisting the rise of robotopia

Given the implacable logic of market capitalism, it’s only a matter of time before legions of precariously employed low-skill, low-wage workers are given the metallic boot by the silicon scabs of Techno-Utopia.

The resistance has already begun. The blogosphere is alive and crackling with rants against The World According to the Robo-Barons. As one neo-Luddite blogger jibes: Self-checkout “gives customers all the joys of cashiering. Remember that job you have when you were 16?” Another observes: “‘Self-check-out’ sounds like an invitation to suicide.” The

complaints continue: “The system runs on Windows so, god help us.” Who needs “a machine designed to be suspicious and retarded beeping at [you] for no good reason? If you don’t push the right button, it bitches at you. If you scan the wrong barcode, it bitches at you. If you don’t place the item in the bagging area it will bitch at you [and when there’s a problem], it doesn’t tell you what the problem is, It just says ‘an error has occurred.’”

A self-described “NRA Life Member” who goes by the name “Swampbilly” recently grouched: “When we submit to the corporate manipulation of self-check-out, we have become their employee, with the exception that they do not have to provide us a paycheck nor benefits... in effect, we are now working for them for free.”

“It’s worse than that,” a blogger named Dan responded, since “We’re *paying* them to let us work for them!”

So what can be done to deter or torpedo the Advant of the Atomatons?

Strategy one is straightforward. Simply tell any human employee within earshot that you will only deal with a human clerk. If that option is unavailable, leave the store in a huff and vow never to return.

Strategy two: Resort to “bot-jamming.” Scan one or more items and simply walk off without paying. It’s not against the law. You can ignore the sound of the robot asking, “Do you need more time?”

Strategy three: Undercut the megastore’s bottom line by filling your bag with unscanned (hence, unpaid for) merchandise. This practice has become widespread wherever auto-check kiosks have been installed.

According to a report in London’s *The Mail*, “almost the third [of British shoppers] have admitted to stealing at scanners. Many trick machines by giving the wrong information. Techniques include slipping extra items through and lying about which items they had.” [19]

Some robo-clerks sound an alarm when they detect an unscanned item in someone’s bag but, *The Mail* reports, these alerts are routinely ignored “in order to keep queues moving.” Fruits and vegetables (which typically are not encumbered with barcodes) offer another way to “bot-jam” the system. Shoppers can weigh cheaper produce for pricing, then substitute bigger, fatter, juicier items.

This rage against the machines has already gone mainstream. An 2012 episode of the BBC’s *Sherlock Holmes* series featured an incident where Doctor John Watson (Martin Freeman) gets into a tiff with a self-checkout machine and storms off without paying. [20]

And finally, you can follow the advice British blogger Jennie Polloch who provides the following manifesto for resisting the Robot Apocalypse:

“Please vote with your feet and boycott the soulless, inhuman, unhelpful self-service checkouts and allow yourself to be served by a living, breathing human being, capable of nuance, initiative and relationship. Resist the drive towards faceless deficiency and self-serving consumerism. Emerge from your bubble and make contact with another human being; you’ll be doing yourself and your community a favor.” [21]

Notes

- [1] <http://www.globalresearch.ca/author/gar-smith>
- [2] <http://ifg.org/techno-utopia/>
- [3] <http://www.envirosagainstawar.org/know/read.php?itemid=156>
- [4] http://www.boston.com/business/articles/2011/12/09/more_self_checkout_machines_-_fewer_cashiers_at_cvs/
- [5] <http://www.sandit.com/2012/08/21/the-expanding-world-of-mobile-payment-2/>
- [6] <http://marshallbrain.com//robots-in-2015.htm>
- [7] <http://www.thenation.com/article/186129/snowden-exile-exclusive-interview>">
- [8] <http://www.forbes.com/sites/ralphbenko/2013/03/11/1-6-billion-rounds-of-ammo-for--homeland-security-its-time-for-a-national-conversation/>
- [9] <http://www.npr.org/blogs/thesalt/2014/02/06/272469496/after-23-years-your-waiter-is--ready-for-a-raise>
- [10] <http://www.mirror.co.uk/news/uk-news/brits-will-spend-45billion-on-their-mobile-phones-658983>
- [11] <http://www.youtube.com/watch?v=qjkt8uqcWro>
- [12] <http://www.dailymail.co.uk/sciencetech/article-2185336/Tesco-opens-virtual-shop--inside-Gatwick-fridge-wait-plane.html>
- [13] <http://raceagainstthemachine.com/>
- [14] <http://www.universal-robots.com/>
- [15] <http://www.thepacker.com/fruit-vegetable-news/Earthbound-Farm-uses-Adept--Technology-robotics-176424691.html>
- [16] theeconomiccollapseblog.com/archives/the-robots-are-coming-and-they-are-replacing--warehouse-workers-and-fast-food-employees
- [17] <http://www.businessinsider.com/foxconn-animals-2012-1>">
- [18] <http://momentummachines.com/>
- [19] <http://www.dailymail.co.uk/news/article-2135284/How-cheating-checkouts-turning--nation-self-service-shoplifters.html>
- [20] www.youtube.com/embed/Z4EGHOrSC4o
- [21] <http://jenniepollow.com/why-you-should-boycott-self-service-checkouts/>

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