

Sunday Review | CONTRIBUTING OP-ED WRITER

The Machines Are Coming

APRIL 18, 2015

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CHAPEL HILL, N.C. — THE machine hums along, quietly scanning the slides, generating Pap smear diagnostics, just the way a college-educated, well-compensated lab technician might.

A robot with emotion-detection software interviews visitors to the United States at the border. In field tests, this eerily named “embodied avatar kiosk” does much better than humans in catching those with invalid documentation. Emotional-processing software has gotten so good that ad companies are looking into “mood-targeted” advertising, and the government of Dubai wants to use it to scan all its closed-circuit TV feeds.

Yes, the machines are getting smarter, and they’re coming for more and more jobs.

Not just low-wage jobs, either.

Today, machines can process regular spoken language and not only recognize human faces, but also read their expressions. They can classify personality types, and have started being able to carry out conversations with appropriate emotional tenor.

Machines are getting better than humans at figuring out who to hire, who’s in a mood to pay a little more for that sweater, and who needs a coupon to nudge them toward a sale. In applications around the world, software is being used to predict whether people are lying, how they feel and whom they’ll vote for.

To crack these cognitive and emotional puzzles, computers needed not only sophisticated, efficient algorithms, but also vast amounts of human-generated

data, which can now be easily harvested from our digitized world. The results are dazzling. Most of what we think of as expertise, knowledge and intuition is being deconstructed and recreated as an algorithmic competency, fueled by big data.

But computers do not just replace humans in the workplace. They shift the balance of power even more in favor of employers. Our normal response to technological innovation that threatens jobs is to encourage workers to acquire more skills, or to trust that the nuances of the human mind or human attention will always be superior in crucial ways. But when machines of this capacity enter the equation, employers have even more leverage, and our standard response is not sufficient for the looming crisis.

Machines aren't used because they perform some tasks that much better than humans, but because, in many cases, they do a "good enough" job while also being cheaper, more predictable and easier to control than quirky, pesky humans. Technology in the workplace is as much about power and control as it is about productivity and efficiency.

This used to be spoken about more openly. An ad in 1967 for an automated accounting system urged companies to replace humans with automated systems that "can't quit, forget or get pregnant." Featuring a visibly pregnant, smiling woman leaving the office with baby shower gifts, the ads, which were published in leading business magazines, warned of employees who "know too much for your own good" — "your good" meaning that of the employer. Why be dependent on humans? "When Alice leaves, will she take your billing system with her?" the ad pointedly asked, emphasizing that this couldn't be fixed by simply replacing "Alice" with another person.

The solution? Replace humans with machines. To pregnancy as a "danger" to the workplace, the company could have added "get sick, ask for higher wages, have a bad day, aging parent, sick child or a cold." In other words, be human.

I recently had a conversation with a call center worker from the Philippines. While trying to solve my minor problem, he needed to get a code from a supervisor. The code didn't work. A groan escaped his lips: "I'm going to lose my job." Alarmed, I inquired why. He had done nothing wrong, and it was a small issue. "It doesn't matter," he said.

He was probably right. He is dispensable. Technology first allowed the job to be outsourced. Now machines at call centers can be used to seamlessly generate spoken responses to customer inquiries, so that a single operator can handle

multiple customers all at once. Meanwhile, the customer often isn't aware that she is mostly being spoken to by a machine.

This is the way technology is being used in many workplaces: to reduce the power of humans, and employers' dependency on them, whether by replacing, displacing or surveilling them. Many technological developments contribute to this shift in power: advanced diagnostic systems that can do medical or legal analysis; the ability to outsource labor to the lowest-paid workers, measure employee tasks to the minute and "optimize" worker schedules in a way that devastates ordinary lives. Indeed, regardless of whether unemployment has gone up or down, real wages have been stagnant or declining in the United States for decades. Most people no longer have the leverage to bargain.

In the 1980s, the Harvard social scientist Shoshana Zuboff examined how some workplaces used technology to "automate" — take power away from the employee — while others used technology differently, to "informatize" — to empower people.

For academics, software developers and corporate and policy leaders who are lucky enough to live in this "informatize" model, technology has been good. So far. To those for whom it's been less of a blessing, we keep doling out the advice to upgrade skills. Unfortunately, for most workers, technology is used to "automate" the job and to take power away.

And workers already feel like they are powerless as it is. Last week, low-wage workers around the country demonstrated for a \$15-an-hour wage, calling it economic justice. Those with college degrees may not think that they share a problem with these workers, who are fighting to reclaim some power with employers, but they do. The fight is poised to move up the skilled-labor chain.

Optimists insist that we've been here before, during the Industrial Revolution, when machinery replaced manual labor, and all we need is a little more education and better skills. But that is not a sufficient answer. One historical example is no guarantee of future events, and we won't be able to compete by trying to stay one step ahead in a losing battle.

This cannot just be about machines' capabilities or human skills, since the true solution lies in neither. Confronting the threat posed by machines, and the way in which the great data harvest has made them ever more able to compete with human workers, must be about our priorities.

It's easy to imagine an alternate future where advanced machine capabilities

are used to empower more of us, rather than control most of us. There will potentially be more time, resources and freedom to share, but only if we change how we do things. We don't need to reject or blame technology. This problem is not us versus the machines, but between us, as humans, and how we value one another.

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A version of this op-ed appears in print on April 19, 2015, on page SR4 of the New York edition with the headline: The Machines Are Coming.