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CONGREGATION OF FREDERICK
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"The Rise of the Robots"

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25 March 2018

frederickuu.org

There is a lot of xenophobic fearmongering these days about immigration. But as the saying goes, **"Immigrants aren't coming for your jobs, robots are."** Robots, equipped with increasingly sophisticated Artificial Intelligence, are rapidly becoming competent in a widening array of fields.

Martin Ford, in his important book Rise of the Robots: Technology and the Threat of a Jobless Future (2015), invites his readers to reflect on a thought experiment in which robots of the near future are reimagined as an alien invasion. Unlike in the movies, **these robot aliens "have not come to conquer us, or to extract our resources, or even to meet our leader. The aliens, it turns out, have come to work."** And not only do they *want* to work, they are also *good* at it. Each of these alien robots are "highly intelligent and capable of learning language, solving problems, and even exhibiting creativity." And once they master a skill, they work tirelessly, need little repairs or time-off, and can be replicated at increasingly cheap rates (194-196).

If robots do eventually take over most—or essentially all—of the jobs currently done by humans, then what are we humans going to do for money? One option is some sort of government-sponsored "jobs program" in which jobs that robots could do much more cheaply and efficiently are instead reserved for humans. This possibility was famously skewered in the 1960s by the late Milton Friedman (1912-2006), a Nobel Prize-winning economist who has been

called the “second-most popular economist of the twentieth century.” (If you’re curious, number one was John Maynard Keynes.”):

While consulting with the government of a developing Asian nation, Friedman was taken to a large-scale public works project, where he was surprised to see large numbers of workers wielding shovels, but very few bulldozers, tractors, or other heavy earth-moving equipment.... Friedman asked, “**So then, why not give the workers *spoons* instead of shovels?**” (ix)

After all, spoons are also a *technology* that makes work less labor-intensive for humans. If the only reason to not use a bulldozer is a belief that workers must do some sort of labor to give their lives meaning and justify paying them, why not just let them use their hands? For that matter, why not make them “do the Hokey-Pokey and turn themselves around” for eight hours before punching the clock, if a robot can come in behind them and do their job many times faster?

The economy is more complicated than that, of course. As we heard at the end of the spoken meditation, “**A worker is also a *consumer*.... When a worker is replaced by a machine, that machine does not go out and consume.**” So if machines take all our jobs, who is going to have enough spare wages or wealth to buy stuff to power the economy? One response worth considering could be to restructure our economy. As the saying goes, “Never let a crisis go to waste.” A crisis can be an opportunity to do things differently (xviii).

And history tells us that similar crises have happened in the past:

The mechanization of agriculture vaporized millions of jobs and drove crowds of unemployed farmhands into cities in search of factory work. Later, automation and globalization pushed workers out of the manufacturing sector and into new service jobs.... What’s more, those new jobs were often better than earlier counterparts, requiring upgraded skills and offering better wages. (ix-x)

Describing jobs as “better” is admittedly a subjective evaluation, and there were also many workers displaced and sometimes unable to get a new job. But we need to have a serious reckoning about how hard we should fight to protect the jobs that robots might take away. Would more leisure time be so terrible? To quote another economist, this time the late John Kenneth

Galbraith (1908 - 2006): **“Leisure is a peculiar thing. Leisure is [often seen as] very good for the rich, quite good for Harvard professors—and very bad for the poor” (48).**

As to how much any one of us should be concerned about the “rise of the robots,” there was an article in *The New York Times* earlier this month that summed up the current situation: **“Most Americans See Artificial Intelligence as a Threat to Jobs (Just Not Theirs).”** So—almost all of us continue to regularly use early stage Artificial Intelligence devices (navigation apps, streaming services, smartphone personal assistances, and other smart home devices) that are collecting all the data about human behavior that will make the next generation of AI possible. And the possibilities keep growing—or should I say metastasizing?!—exponentially from there.

Indeed, Kevin Kelly (1952-), the founding Executive Editor of *Wired* magazine, has outlined the **Seven Stages of Denial related to having your job replaced by a robot.** A little time passes between each stage, during which the robot’s AI rapidly improves its performance capabilities:

1. A robot/computer cannot possibly do the tasks I do. [*Time passes*]
2. OK, it can do a lot of those tasks, but it can’t do everything I do. [*Time passes*]
3. Ok, it can do everything I do, except it needs me when it breaks down, which is often. [*Time passes*]
4. OK, it operates flawlessly on routine stuff, but I need to train it for new tasks. [*Time passes*]
5. OK, Ok, it can have my old boring job, because it’s obvious that was not a job that humans were meant to do. [*Time passes*]
6. Wow, now that robots are doing my old job, my new job is much more interesting and pays more! [*Time passes*]
7. I am so glad a robot/computer cannot possibility do what I do now. (59-60)

At this point you’ve slipped into denial again, so go back to stage one and *repeat* until enough time passes that a robot can now do your new job too!

One of the biggest misconceptions is that robots are only coming for so-called “blue collar” jobs. But it is not only “routine” and “repetitive” jobs that are in the crosshairs of AI-empowered robots. Increasingly sophisticated algorithms have shown us that **the key word for determining whether your job is under threat is whether it is *predictable***:

Could another person learn to do your job by studying a detailed record of everything you’ve done in the past? Or could someone become proficient by repeating the tasks you’ve already completed, in the way that a student might take a practice test to prepare for an exam? (xiv-xv)

To put myself in the spotlight, what ministerial algorithms might be created by constantly surveilling what all the religious professionals across the world are doing? I suspect we ministers might someday find ourselves among those people experiencing the Seven Stages of Denial about being replaced by a robot.

To give a more high-end example of what I’m talking about, radiologists (physicians who specialize in the interpretation of medical images) are among the highest paid doctors, with an average annual salary of around \$340,000. Today, to become a radiologist requires approximately thirteen years of training beyond high school; but each year, computers are getting better at analyzing images. I can already see the appeal of getting a second opinion from a computer that has in its memory bank every interpretation every previous radiologist has ever made.” And **the day is likely coming soon when we have only robot radiologists** (xv).

The day is also likely coming soon when you will enter a fast food restaurant that is almost 100% automated. You will enter you order through an interface and your food will be prepared precisely to your specifications by a robot. A few years ago, for instance, a company named Momentum Machines designed a machine “capable of producing about 360 hamburgers per hour, that also toasts the bun and then slices and adds fresh ingredients like tomatoes, onion, and pickles only after the order is placed” (12). The company estimates that their machine will pay for itself in less than a year based on not having to pay for human labor (13). There may well not even be a human manager physically present. Rather, there may be a centralized facility remotely monitoring the individual restaurants (15). Heck, it may be that you skip going to the

restaurant altogether, order through a smartphone app, and have a drone deliver the food to wherever you are.

To give a few more examples, StatsMonkey is a program being developed to “automate sports reporting by transforming objective data about a particular game into a compelling narrative” (84). Even more shocking are the advances that machines are making in composing music that is emotionally moving to humans—based on inputting data on the history of music and the human response to it. Dishearteningly to we mere mortals, these complex pieces of music take machines mere minutes to compose (111). Similar software is being developed to allow machines to generate new works of art. Using a “database of paintings that had been labeled by humans with adjectives like ‘dark,’ ‘sad,’ or ‘inspiring,’ the software can itself discern “whether or not it is achieving its objectives as it paints” (112-113).

Is this progress? Or are we programming our own obsolescence? Kurt Vonnegut’s (1922 - 2007) first novel, *Player Piano*, published in 1952, “described an automated economy in which industrial machines managed by a tiny technical elite did virtually all the work, while the vast majority of the population faced a meaningless existence and a hopeless future” (32). Vonnegut’s science fiction seems increasingly less fiction and more science.

Consider that:

- YouTube was founded in 2005 by three people. Less than two years later, the company was purchased by Google for about \$1.65 billion. At the time of its acquisition, YouTube employed a mere sixty-five people, the majority of them highly skilled engineers. That works out to a valuation of over \$25 million per employee.
- In April 2012, Facebook acquired photo-sharing start-up Instagram for \$1 billion. The company employed thirteen people. That’s roughly \$77 million per worker.
- Fast-forward another two years to February 2014 and Facebook... which purchased the mobile messaging company WhatsApp for \$19 billion. WhatsApp had a workforce of fifty-five—giving it a valuation of a staggering \$345 million per employee. (175)

“Contrast that with the automotive industry. At peak employment in 1979, General Motors alone had nearly 840,000 workers but earned only about \$11 billion—20 percent less than what Google raked in, in 2012, while employing fewer than 38,000 people. And, yes, that's after adjusting for inflation” (76).

How then, should we help build a more hopeful future with “peace, liberty, and justice” for *all*, not merely for some? Along those lines, last week, in reflecting on the life and work of James Baldwin, we talked about the importance of our UU Second Source: “Words and deeds of prophetic people who challenge us to confront powers and structures of evil with justice, compassion, and the transforming power of love.” Among our list of contemporary prophets, I would also include the writer, environmental activist, and cultural critic Wendell Berry (1934-). One of the central questions he asks has stuck with me since I first read it many years ago: What are people for?

Our UU First Principle, echoing the U.N. Declaration of Human Rights, upholds “The inherent worth and dignity of every person.” This value has the potential to help us shape a very different sort of society than one in which humans are only valued for the profit margins our labor can generate for corporations.

If you are interested in exploring this topic further, at least equally important to Martin Ford’s *Rise of the Robots* is a bestseller that *The New York Times* named as one of the top 100 books of 2017, World Without Mind: The Existential Threat of Big Tech by Franklin Foer (Penguin Press). Foer has a particular interest in this topic. He was hired to be the editor of the *New Republic* in 2012, when that media organization was bought by Chris Hughes, who had been roommates at Harvard with Mark Zuckerberg, the co-founder of Facebook. This purchase was originally hailed as a prime example of the way that some of the profits these new tech companies were making could be merged with traditional media. But, a little more than two years later, Hughes fired Foer, saying the profit margins were too slow to rise (7-8).

And recent headlines are siren calls that things can go really badly within our new world of twenty-first century technology. Witness the ways Russian hackers helped manipulate the American public in order to help elect a Reality TV star as President of the United States (221). Or consider just the first lines of an article from this past week’s *New York Times*: “Cambridge

Analytica, the political data firm with ties to President Trump’s 2016 campaign, suspended its chief executive, Alexander Nix, on Tuesday, amid the furor over the access it gained to private information on more than 50 million Facebook users.

Reflecting on the growing power and influence of the big four tech companies—sometimes abbreviated GAFA (Google, Apple, Facebook, and Amazon)—Foer writes:

We have deluded ourselves into caring more deeply about convenience and efficiency than about the things that last. Compared to the sustained nourishment of the contemplative life and the deep commitment to text, many of the promiscuous pleasure of the Web are vanishing. The contemplative life remains freely available to us through our choices—what we read and buy, how we commit to leisure and self-improvement, the passing over of empty temptation, our preservation of the quiet spaces, an intentional striving to become the masters of our mastery. (232)

But the technology corporations are actively trying to exploit our human weaknesses, keeping us enthralled to their products, giving them increasing amounts of data about ourselves, and augmenting their quarterly profits, even as they, in turn, use our attention and data to lure advertising dollars.

We need a “triple bottom line” one that accounts for *people, planet* and *profit* (not merely profit alone). Unfortunately, the incentives for short-term profits are too great to expect corporations to do the right thing on their own. To be even more direct, as best I can tell, there is a three-word answer that is the best way of responding to the rise of the robots, and that is a *Universal Basic Income*. I said a lot more about what that would mean in my Labor Day sermon this past year titled “Beyond \$15: The Sturdy Floor of a Universal Basic Income.” And I was interested to read this line near the end of Martin Ford’s *Rise of the Robots*: “**Some form of guaranteed income is probably the best overall solution to the rise of automation technology**” (272).

For now, regarding the choices before us as a species, I will leave you with these words from Wendell Berry’s book *What Are People for?*:

I knew a man who, in the age of chainsaws,

went right on cutting his wood with a handsaw and axe.

He was a **healthier** and a **saner** man than I am.

I shall let his memory trouble my thoughts.