Robots Are Redefining Our Jobs. Will That Redefine Us?

A special issue with articles by
RICHARD FLORIDA,
MARK KINGWELL,
SCOTT REYNOLDS NELSON,
and JEFFREY R. YOUNG
"Speaking Christian correctly may seem misconceptions about martyrdom in the early church still create real barriers to compassion and dialogue today. An important book and a fascinating read."
—Archbishop Desmond Tutu

Available in Hardcover
$25.99 ($27.99 Can.) • 320 pages

Did Jesus Exist? The Historical Argument for Jesus of Nazareth
Bart D. Ehrman

"Ehrman decimates the persistent arguments of those who not only deny the divinity of Jesus but insist that no such man ever even existed."
—Christian Science Monitor

Available in Paperback
$16.99 ($18.99 Can.) • 368 pages

Speaking Christian Why Christian Words Have Lost Their Meaning and Power—And How They Can Be Restored
Marcus J. Borg

"Speaking Christian correctly may seem like it’s just a fuss over semantics, but it’s ultimately about something bigger: defining Christianity. ... When Christians forget what their words mean, they forget what their faith means."
—CNN

Available in Paperback
$14.99 ($16.99 Can.) • 256 pages

Still Notes on a Mid-Faith Crisis
Lauren F. Winner

"Despite deep pain and doubt, Winner relentlessly searches God’s mysteries, seeking peace and authenticity in her faith. Her spiritual memoir is unblinkingly, credible, and compelling."
—Christianity Today (Christianity Today 2013 Book Award, Spirituality)

Available in Paperback
$14.99 ($16.99 Can.) • 372 pages

www.HarperAcademic.com

Teaching ‘by Hand’ in a Digital Age
By JOSEPH HARRIS

In January, Udacity published on its blog a Bill of Rights and Principles for Learning in the Digital Age. The bill is signed by theorists of online learning like John Seely Brown and Cathy N. Davidson, along with other digital educators and the chief executives of Udacity, EdSurge, and Inside Higher Ed. Here’s the most part of the bill of rights is unobjectionable. It begins by emphasizing students’ rights to access, privacy, and control over their own intellectual work, and moves on to extoll the digital values of hybridity, flexibility, and collaboration. It is an intelligent and earnest document.

Still, something vital is missing from its description of ideal online learning. That something is what occurs when a good teacher responds carefully and closely to the work of a student.

I vividly recall a conference I had one afternoon many years ago with my instructor in what was still then called “Freshman English.” It was about midway through the semester, and I was doing poorly in the course. We were working that afternoon on a draft of an essay I had written on Kierkegaard and Satan in Paradise Lost. I no longer remember what point I might have been trying to make about the two, and, frankly, I’m not sure I was ever very clear on that count. I remember my professor puzzling slowly through my paper with me. Then, his pencil poised over a sentence I had typed, he turned to me and said, “Now, this is a typical Harrisian move.”

The comment struck me out of the blue. Until then, I hadn’t thought of myself as having any general formulas about good writing or even many specific advice about this essay. No doubt my professor took me seriously before I had earned such care. In my experience, that’s what good teachers do. The crucial moment in teaching, or at least in teaching writing or literature, lies not in presentation but response.

There’s a nod to such work in Udacity’s bill of rights, in a section that notes the importance of “learner-oriented feedback systems.” But I worry that digitized feedback systems can only be a pale version of the focused response that a trained and attentive reader, a teacher, can offer a young writer.

The teaching of writing has long been a textbook-driven field precisely because such readers are in short supply. But it doesn’t really work. What students need is not someone to walk them through a textbook but someone who can respond to their own work and ideas.

It’s argued that online courses can offer students models of such response. But there’s a difference between being presented with a model and working under the guidance of a teacher. I watch over and coach the work that my students do. And I respond to what they write, too—in class, in conference, on the page. If we take ourselves out of that dialogue, out of the give and take of draft and response and revision, then we are no longer teachers but content providers.

The key right of any learner is to the attention of his or her teacher. As my friend Eli Goldblatt says, “We teach by hand”—by which I take him to mean that we teach not subjects or courses but individuals. I suspect we still need to figure out how to offer online learners that sort of care and responsiveness.

Joseph Harris teaches digital writing and creative nonfiction at Duke University.
March 29, 2013

Robots and Work
A SPECIAL ISSUE

FEATURES

The New Industrial Revolution
The next wave of robots could change the meaning of work.
By Jeffrey R. Young [B6]

Blame Shifting
Automation will engender neither utopia nor dystopia. Humans alone are responsible for our society’s economic future.
By Richard Florida [B10]

Time’s Treasures and Torments
Technology can’t solve humanity’s existential dilemmas. But it can give us more leisure in which to agonize over them.
By Mark Kingwell [B13]

CONSIDER THIS

The Tools to Retool
Critical thinking is a displaced worker’s best friend.
By Scott Reynolds Nelson [B4]

BOOKS & ARTS

NOTA BENE

When Bots Go Bad
Can robots commit crimes? And if so, a law scholar wonders, should they be rehabilitated or reprogrammed?
By David Wescott [B17]

NEW SCHOLARLY BOOKS [B18]

OBSERVER

MOOC’d
An economics professor fears he may become a textbook example of obsolescence.
By Albert J. Sumell [B20]

THE CHRONICLE CROSSWORD [B19]

Cover photo illustration by Coneyl Jay, Science Source

chronicleresview.com
My first teaching job was describing computer networks to displaced Linotype and page-layout workers in Toronto. The government of Ontario paid for the classes. I tried my best to explain obscure topics like network topologies, collision-detection protocols, and congestion-control algorithms. My students learned how to tell IPX-SPX from DECnet from Banyan Vines (network protocols that are now mostly defunct). It all felt vitally important to me, but they had trouble finding any use for most of what I was teaching them.

It was 1992, and we were using NeXT computers developed under the aegis of Steve Jobs, the man recently kicked out of Apple. I wanted to convince my classes that the NeXT browser in front of them would change the way people interacted with information and provide a lightweight method for delivering books and newspapers. They were not convinced, and they were not amused. Steve Jobs, one ex-worker told me, was a loser.

These former print workers had been displaced by a program called Aldus PageMaker, which in the late 1980s allowed a few graphic designers to do what a roomful of compositors had done in newsrooms, insurance companies, and advertising agencies all over Toronto. The story in print was similar to the story in television. My mom’s boyfriend, David, was a TV news director. In the 1970s, he was a clever guy who joked with the cameramen, the sound guys, and the tape handlers. As Mom anchored the news, she watched the cameramen laughing at the off-color remarks. By the middle of the 1990s, David had no one to joke with; by then he was running the entire newsroom from a booth. He reminded me of Doctor Octopus in the Spiderman comics as he orchestrated complex dolly shots, fast pulls, and video-font effects by turning a few dials.

The political economist Adam Smith, writing from Scotland in the 1770s, predicted the first part of that transformation but not the second. He saw that any manufacturing process (making pins, say) could be broken into small parts. A group of “dextrous” workers, each with one task, was more efficient than a group of workers who did all the tasks; an owner used the efficiency to make cheaper goods; everyone benefited. Smith assured us that, with free trade, a division of labor among countries would improve everyone’s lives. He failed to consider the post-1770s scenario. Once dextrous workers had mastered a process, a machine could replace them.

Nor did he envision all the results of inter-continental competition. After my teaching job, I worked as a network engineer for a Toronto company that owned thousands of retail stores. My job was to pull the patch cords and plan the cable runs in corporate headquarters. Did the buyers and tech people know that the company faced stiff competition from Wal-Mart and the Gap in the wake of the North American Free Trade Agreement? I think so. I seldom saw the pink slips, but gossip circulated that some stores would close, the company would be carved up, and a large headquarters might no longer be necessary. One day a contractor summoned me to give his laptop a faster network connection to run cost-benefit figures. He chose 100 retail stores to close that winter.

I suppose I saw the handwriting on the wall: In 1993, I left the networking world to become a history professor. When I began learning about labor history, I read a lot about workers displaced by machinery: hand-loom weavers in Scotland, steel puddlers in Pittsburgh, coal miners in Carbondale, Ill. They had often been the most intelligent, advanced, and thoughtful workers of their day. And they tended to be found in areas that capitalists couldn’t leave, like the wool-growing areas of Scotland or the regions with high-quality iron deposits in Pennsylvania. They joined trade unions, fought against well-organized corporations, called the attention of the middle class to their plight, and sometimes—just sometimes—won concessions from management. They helped give us the five-day week, the eight-hour day, and an excellent collection of drinking songs.

The history of the labor movement’s successes was less depressing than the story I saw in Toronto. Some scholars say finding middle-class allies was easier for workers 100 years ago. Some say capitalists find it easier to move when they have a whole planet to draw raw materials from. Others argue that as workers increasingly left unions in industrialized countries, unions lost their bargaining power, becoming weaker in a deepening, downward spiral.

The stories I saw as a network manager were grim for the silence that surrounded them. I cannot remember a song I want to sing from those years. (In academe, the grimest irony today is that it is hard to find new labor historians in history departments.) Yet in reflecting on technological displacements in my own lifetime and those in the past, I can see what may be a deeper takeaway: People can retool. Adam Smith, despite his failure to imagine technological displacement, loved education (though he despised the negligence and incapacity of masters at Oxford and Cambridge). He argued that while the division of labor had huge advantages, it was likely to turn work-
ers into unthinking drones (the word had a different connotation in those days), and drones were dangerous to public safety. He argued for a broad system of “little schools,” on the Scottish model, in which every young adult learned to read, write, and calculate. Workers brought up with universal schooling would respect authority, learn enough “geometry and mechanics” to use in their trades, keep invention alive, and finally see through “the interested complaints of faction and sedition.” In other words, they would learn to think critically.

The conservative emphasis on job training and respect for authority can be used to bash the liberal arts. Indeed, the governors of North Carolina, Texas, and Florida routinely use Smith’s logic to do just that. But the part about teaching people to think—which is what that logic was supposed to do—is important. Many folks need to think critically, and it’s not easy to teach them how.

With a little help, people adapt. I can tell from LinkedIn that many of my displaced retail friends from Toronto have retooled. They still work in the industries I met them in and still live downtown, near where they work, but they have different jobs. Some were retrained in the government-sponsored programs where I first taught. Ontario did it better than Florida, where I grew up. Many of my high-school friends lost their jobs due to the post-cold-war decline of the aerospace industry and the outsourcing of programming jobs. Even engineers, it turns out, can probably be taught only in groups smaller than 40. And the seemingly crucial facts (like the periodic table, the cellular structure of plants, antiseptic techniques, electromagnetic force, the structure of atoms—all developed from a blend of experiment and university lectures in small classes.

Will MOOCs provide what students need to tool or retool for the future? Smith, with his fondness for “little schools,” probably wouldn’t think so. Nor do I.

Lots of processes are scalable in this world, but writing, critical thinking, and analysis can probably be taught only in groups smaller than 40. And the seemingly crucial facts (like IPX-SPX that I once taught) are as ephemeral as last year’s jobs. Massive scalability, as Smith would point out, is a path that turns invention into drudgery. A laborer, he declared smugly, “has no occasion to exert his understanding or to exercise his invention.” The same is true for students who watch recorded lectures.

I might be wrong about the necessity of the “little school” as the soul of invention and preparation for an ever-changing labor market. If I am, I should work on my own résumé. I still have my notes from the class in Toronto.
The New
Robots and Work
A coming wave of robots could redefine our jobs. Will that redefine us?

By JEFFREY R. YOUNG

BAXTER IS A NEW TYPE OF WORKER, who is having no trouble getting a job these days, even in a tight economy. He’s a little slow, but he’s easy to train. And companies don’t hire him, they buy him—he even comes with a warranty.

Baxter is a robot, not a human, though human workers in all kinds of industries may soon call him a colleague. His plastic-and-metal body consists of two arms loaded with sensors to keep his lifeless limbs from accidentally knocking over anyone nearby. And he has a simulated face, displayed on a flat-panel computer monitor, so he can give a frown if he’s vexed or show a bored look if he’s waiting to be given more to do.

Baxter is part of a new generation of machines that are changing the labor market worldwide—and raising a new round of debate about the meaning of work itself. This robot comes at a price so low—starting at just $22,000—that even businesses that never thought of replacing people with machines may find that prospect irresistible. It’s the brainchild of Rodney Brooks, who also designed the Roomba robot vacuum cleaner, which succeeded in bringing at least a little bit of robotics into millions of homes. One computer scientist predicts that robots like Baxter will soon toll in fast-food restaurants topping pizzas, at bakeries sliding dough into hot ovens, and at a variety of other service-sector jobs, in addition to factories.

I wanted to meet this worker of the future and his robot siblings, so I spent a day at this year’s Automatica trade show here, where Baxter was one of hundreds of new commercial robots on display. Simply by guiding his hands and pressing a few buttons, I programmed him to put objects in boxes; I played blackjack against another robot that had been temporarily programmed to deal cards to show off its dexterity; and I watched demonstration robots play flawless games of billiards on toy-sized tables.

It turns out that robots are not only better at many professional jobs than humans are, but they can best us in our hobbies, too.

During a keynote speech to kick off the trade show, Henrik Christensen, director of robotics at Georgia Tech, outlined a vision of a near future when we’ll see robots and autonomous devices everywhere, working side by side with humans and taking on a surprisingly diverse set of roles. Robots will load and unload packages from delivery trucks without human assistance—as one company’s system demonstrated during the event. Robots will even drive the trucks and fly the cargo planes with our packages, Christensen predicted, noting that Google has already demonstrated its driverless car, and that the same technology that powers military drones can just as well fly a FedEx jet. “We’ll see coast-to-coast package delivery with drones without having a pilot in the vehicle,” he asserted.

Away from the futuristic trade floor, though, a public discussion is growing about whether robots like Baxter and other new automation technologies are taking too many jobs. Similar concerns have cropped up repeatedly for centuries: when combines first arrived on farms, when the first machines hit factory assembly lines, when computers first entered businesses. A folk tune from the 1950s called “The Automation Song” could well be sung today: “Now you’ve got new machines for to take my place, and you tell me it’s not mine to share.” Yet new jobs have always seemed to emerge to fill the gaps left by positions lost to mechanization. There may be few secretaries today, but there are legions of social-media managers and other new professional categories created by digital technology.

Still, what if this time is different? What if we’re nearing an inflection point where automation is so cheap and efficient that human workers are simply outmatched? What if machines are now leading to a net loss of jobs rather than a net gain? Two professors at the Massachusetts Institute of Technology, Andrew McAfee and Erik Brynjolfsson, raised that concern in Race Against the Machine: How the Digital Revolution Is Accelerating Innovation, Driving Productivity, and Irreversibly Transforming Employment and the Economy (Digital Frontier Press, 2011). A recent report on 60 Minutes featured the book’s thesis and quoted critics concerned about the potential economic crisis caused by robots, despite the cute faces on their monitors.

But robots raise an even bigger question than how many jobs are lost over for humans. A number of scholars are now arguing that all this automation could make many goods and services so cheap that a full-time job could become optional for most people. Baxter, then, would become a liberator of the human spirit rather than an enemy of the working man.

That utopian dream would require resetting the role work plays in our lives. If our destiny is to be freed from toil by robot helpers, what are we supposed to do with our days?

TO BEGIN TO TACKLE that existential question, I decided to invite along a scholar of work to the Automate trade show. And that’s how my guest, Burton J. Bledstein, an expert on the history of professionalism and the growth of the modern middle class, got into an argument with the head of a robotics company.

It happened at the booth for Adept Technology Inc., which makes a robot designed to roam the halls of hospitals and other facilities making deliveries. The latest model—a foot-tall rolling platform that can be customized for a variety of tasks—wandered around the booth, resembling something out of a Star Wars film except that it occasionally blasted techno music from its speakers. Bledstein was immediately wary of the contraption. The professor, who holds an emeritus position at the University of Illinois at Chicago, explained that he has an artificial hip and didn’t want the robot to accidentally knock him down. He needn’t have worried, though; the robot is designed to sense nearby objects and keep a safe distance.

The company’s then-CEO, John Dulchinos, assured us that on the whole, robots aren’t taking jobs—they’re simply making life better for human employees by eliminating the most-tedious tasks. “I can show you some very clear examples where this product is offloading tasks from a nurse that was walking five miles a day to allow her to be able to spend time with patients,” he said, as the robot tirelessly circled our feet.

“I think you see that in a lot of the applications we’re doing, where the mundane task is done by a robot which has very simple capability, and it frees up people to do more-elaborate and more-sophisticated tasks.”

The CEO defended the broader trend of companies’ embracing automation, especially in factory settings where human workers have long held what he called unfulfilling jobs, like wrapping chicken all day. “They look like zombies when they walk out of that factory,” he said of such workers. “It’s a mind-numbing, mundane task. There is absolutely no satisfaction from what they do.”

“That’s your perception,” countered Bledstein. “A lot of these are unskilled people. A lot of immigrants are in these jobs. They see it as work. They appreciate the paycheck. The numbness of the work is not something that surprises them or disturbs them.”

“I guess we could just turn the clock back to 1900, and we can all be farmers,” retorted Dulchinos.

Continued on Following Page
Burton Bledstein, a historian of professionalism and the middle class, at the Automate trade show.

People’s relationship to work has been complex from the start, and its cultural resonance has shifted over time. Today many people’s identities are tied up in their jobs. “Beyond mere survival, we create ourselves in our work,” writes Al Gini, a professor of business ethics at Loyola University Chicago, in his 2001 book, My Job, My Self.

But Gini points to earlier periods when attitudes were quite different. The ancient Greeks, for instance, used slaves for most labor and “regarded work as a curse, a drudgery, and an activity to be conducted with a heavy heart.” Their view, he writes, was that “work by its very nature inhibited the use of reason and thereby impeded the search for the ultimate ends of life.”

Aristotle never worked a day in his life.

Today Jeremy Rifkin is among those who make a case for what he calls “rethinking work.” Rifkin, president of the Foundation on Economic Trends and a senior lecturer at the University of Pennsylvania’s Wharton School of business, is best known for his 1995 best seller, The End of Work. In his most recent book, The Third Industrial Revolution, he says that a reshaping of society made possible by a variety of trends, including automation systems and green technology, could leave people more time for what he calls “deep play.”

He imagines robots’ making manufacturing so cheap and efficient that most people will simply be able to work less to meet their basic needs. He says we will then be free to start new kinds of nonprofit activities that link us with other people in new ways, helping us lead more-fulfilling lives.

“Why is it that being a productive worker is the highest value of being alive on this planet?” Rifkin asks. “The real mission of the human race is coming,” he says, “to learn how to begin to integrate ourselves into a single biosphere,” he says, arguing that the Internet can bring about a true global village.

“What we have to come to grips with now is that the most productive and efficient human being is not going to be as productive and efficient in a physical or intellectual way as the automated technology that’s coming,” he says.

Work won’t go away completely, in his view, but the workweeks for many will greatly decrease. “The average work day in forager and hunter-gatherer society is three to four hours—the rest is leisure or play,” he says. In the robot age, “I think a five-to-six-hour day makes sense.”

Frithjof Bergmann, an emeritus professor of philosophy at the University of Michigan at Ann Arbor, goes further in his proposals for a radical restructuring of society that would bring about what he calls a “New Work system.”

He envisions a social structure in which large-scale manufacturing plants disappear, replaced by a series of neighborhood centers with advanced 3-D printers that can make a variety of goods on demand. People would spend part of their week doing self-service tasks to maintain their own lives—like homemade manufacturing and urban gardening—and spend a couple of days a week at what he calls a “Paid Calling,” some task uniquely suited to each worker. That way “the impulse for the work arises from within me” and comes “from the very heart and core of my soul,” as he put it in an essay, published in 2000, titled “Ecology and New Work.”

Bergmann runs an organization in Flint, Mich., called the Center for New Work, to advance this vision, and he argues that the current economic recession provides an opportunity to phase in his ideas, some of which he has been promoting since the 1980s. “I spent just now two weeks teaching people in Detroit how to make the best possible use of 3-D printers,” he told me. “You can use fabricators like you’re already using urban gardening, so you do have the opportunity to spend much more time than you had in the past to do things that are to your taste.”

Even some of the roboticists here at the Automate show believe that their inventions could lead to a rebooted work environment. One of them is Gary R. Bradski, a machine-vision scientist on leave from Stanford University to help start a company called Industrial Perception—the one demonstrating a robot that can unload boxes from a delivery truck without human assistance.

Bradski said he could imagine a world in which ev-
Bull Bledstein, a historian of professionalism, uses Rocky only during the busiest times, and that when things are what the robots bring and drop those items into boxes. The company

During the 1930s, some experts even interpreted the Great Depression as an “indication that technology was at the stage where people were being permanently eliminated from the production process,” and some saw the prospect of a more leisureed future as “replete with a certain promise,” he writes.

In an interview, Granter praised the latest versions of these ideas and noted that such visions are helpful reminders that the idea of work could be different. But he said that if history is a guide, we’re unlikely ever to be freed from working.

What is most surprising about the latest round of automation technology is that not just working-class jobs but desk jobs as well, he said. Software that helps in legal research, or “document discovery,” is replacing some lawyers, for instance, and plenty of other information workers, including tax preparers and copy editors, are at risk of being elbowed out by computer programs that can do part of their jobs. One researcher has even developed a software program that writes books automatically, drawing on facts posted in public-domain resources on the Internet.

“We were supposed to be the elite,” Granter said. “But information workers became even more precarious than industrial workers.”

What do the people who work with robots like Baxter think of their new co-workers? I called up a hospital that bought one of the Adept robot couriers to find out.

“At first, when we were trialing the robot, there was a bit of resistance,” said Jeremy Angell, coordinator of support services at CentraCare Health System’s St. Cloud Hospital, in Minnesota. Angell supervises a robot courier named Rocky, who is custom-made to hold several vials in carefully marked slots, and whose job is to carry those specimens from nurses to lab technicians and back again. Some lab technicians worried that it would be cumbersome to figure out which sample was which when this rolling shelf pulled up.

The assistants who had previously made the deliveries liked Rocky from the start, though. Carrying specimens around had been a hassle that left less time to do other tasks, like responding to phone requests from nurses and other hospitals that use the lab.

Angell said no one at the hospital had lost a job because of Rocky. But the robot allowed the laboratory to handle more work without hiring the two full-time assistants that had previously been planned. “We did not have to bring in someone to do a menial task,” he said.

One of the laboratory assistants, Lynn Balaski, explained that she uses Rocky only during the busiest times, and that when things are slow she still prefers to hand-deliver the samples. “He’s there when I need him, which isn’t all the time,” she said.

Lab workers jokingly pretend that Rocky is more than just plastic and programming, and find themselves responding playfully to his pre-programmed jokes or comments about the weather—all recorded by Angell. But the robot’s comic timing is so bad that the sheer ineptness makes Balaski laugh.

The recent federal health-care-reform law has led more hospitals to continue to teach and do research as long as he can. He wants to keep

The robotic system constantly adjusts the pace at which it brings items to the human pick workers, always making sure to have about 200 seconds’ worth of work on deck, no more, no less. That means if a worker slows down, the robot sends less work over. Some workers try to see if they can outrun their mechanical partners, said Lemere.

Santana said she had no fear that robots could eventually replace her. “Humans need to be involved in orders,” she said. “The robots cannot pack the orders, cannot pick them. They just make our jobs easier.”

One reason for all the fuss about Baxter and Rocky taking jobs may be a longstanding tendency to personify robots.

“You’re going to see in the next five to 10 years a significant increase in automation and robotics within the health-care space.”

Still, the question of whether robots are helping or hurting the workforce has become a serious policy issue. Georgia Tech’s Christensen, the keynote speaker at the trade show and a leading pro-robot spokesman, has argued to the Obama administration that new robot workers can help bring back manufacturing jobs to the United States that have moved overseas. Administration officials were skeptical at first, he acknowledged:

“You’re about killing jobs, why would we talk to you,” he remembered being told. But he said they “got convinced,” and he pointed to a recent move by Apple to move more production of its computers to the United States because automation made it cheap enough. The professor recently helped update a white paper sponsored by the National Science Foundation laying out a “National Robotics Roadmap” for the country.

And Jeremy Rifkin, who writes about moving to an era of “deep play,” is an adviser to the European Union.

Bledstein said he may write something more about automation and how it has changed the middle class, and he mentioned that he would continue to teach and do research as long as he can. He wants to keep working. He thinks every professional does, as long as the work is meaningful. “People I know who have really retired, they have really deteriorated quickly,” he said. “Work is far more than just a practical category. It’s fundamental. We need work.”

By the end of a day at the Automate trade show, my feet were tired, and I was coming down with a cold. As I trudged out, I was struck by how steady and relentless the robots on display appeared, with some moving as many as 300 objects per minute in an endless loop. They weren’t going to stop unless someone hit the off switch.

Jeffrey R. Young is a senior editor at The Chronicle.
Robots Aren’t the Problem: It’s Us

By RICHARD FLORIDA

EVERYONE HAS AN OPINION about technology. Depending on whom you ask, it will either: a) Liberate us from the drudgery of everyday life, rescue us from disease and hardship, and enable the unimagined flourishing of human civilization; or b) Take away our jobs, leave us broke, purposeless, and miserable, and cause civilization as we know it to collapse.

The first strand of thinking reflects “techno-utopianism”—the conviction that technology paves a clear and unyielding path to progress and the good life. George F. Gilder’s 2000 book Telecosm envisions a radiant future of unlimited bandwidth in which “liberated from hierarchies that often waste their time and talents, people will be able to discover their most productive roles.” Wired’s Kevin Kelly believes that, although robots will take away our jobs, they will also “help us discover new jobs for ourselves, new tasks that expand who we are. They will let us focus on becoming more human than we were.”

The technology critic Evgeny Morozov dubs today’s brand of technologically utopianism “solutionism,” a deep, insidious kind of technological determinism in which issues can be minimized by supposed technological fixes (an extreme example he gives is how a set of “smart” contact lenses edit out the homeless from view). We latch on to such fixes because they enable us to displace our anxieties about our real-world distress, the New Yorker staff writer George Packer explains: “When things don’t work in the realm of stuff, people turn to the realm of bits.” Morozov points to a future in which dictators and governments increasingly use technology (and robots) to watch over us; Packer worries about “the politics of dissolution,” the way information technology erodes longstanding identities and atomizes us.

ON THE OTHER SIDE stand the growing ranks of “techno-pessimists.” Some say that technology’s influence is greatly overstated, seeing instead a petering out of innovation and its productive forces. According to the George Mason University economist Tyler Cowen, for example, America and other advanced nations are entering a prolonged “great stagnation,” in which the low-hanging fruits of technological advance have largely been exhausted and the rates of innovation and economic growth have slowed. Robert J. Gordon, an economist at Northwestern University, adds additional statistical ammunition to this argument in his much-talked-about paper, “Is U.S. Economic Growth Over?” Computers and biotechnology have advanced at a phenomenal clip, he demonstrates, but they have created only a short-lived revival of growth. Today’s innovations do not have the kind of world-shaking impact that the invention of modern plumbing or the introduction of self-propelled vehicles did (they’re “pipsqueaks” by comparison)—and they are more likely to eliminate than to add jobs.

Another techno-dystopian strand sees the “rise of the robots” as a threat not just to blue-collar jobs but also to knowledge work. “To put it bluntly, it seems that high-skill occupations can be mechanised and outsourced in much the same way as car manufacturing and personal finance,” Tom Campbell, a novelist and consultant in the creative sec-
tor, blogs, pointing to commercial software that already analyzes legal contracts or diagnoses disease.

The dustbin of history is littered with dire predictions about the effects of technology. They frequently come to the fore in periods in which economies and societies are in the throes of sweeping transformation—like today.

During the upheaval of the Great Depression, the late Harvard University economist Alvin Hansen, often called the “American Keynes,” said that our economy had exhausted its productive forces and was doomed to a fate of secular stagnation in which the government would be constantly called upon to stoke demand to keep it moving. Of course we now know from the detailed historical research of Alexander J. Field that the 1930s were, in the title of his 2008 paper, “The Most Technologically Progressive Decade of the Century,” when technological growth outpaced the high-tech innovations of the 1980s, 1990s, and 2000s.

As the late economist of innovation Christopher Freeman long ago argued, innovation slows down during the highly speculative times leading up to great economic crises, only to surge forward as the crisis turns toward recovery. While data are scanty so early into our current recovery cycle, a new, detailed report from the Brookings Institution shows a considerable uptick in patented innovations over the last couple of years.

More than 100 years ago, during an earlier depression, H.G. Wells’s The Time Machine imagined a distant future when humanity had de generated into two separate species—the dismal Morlock, the descendant of the working class, who lived underground and manned the machines, and the ethereal Eloi, their former masters, who had devolved to a state of abject dependency. A little more than half a century later, Kurt Vonnegut’s Player Piano depicted a world in which “any man who could support himself by doing a job better than a machine” is shipped off to the military or assigned to do menial work under the auspices of the government.

T HIS EITHER-OR DUALISM misses the point, for two reasons.

The obvious one is the simple fact that technology cuts both ways. In their influential book Race Against the Machine, Erik Brynjolfsson and Andrew McAfee, both at the Massachusetts Institute of Technology, point out how technology eliminates some jobs but upgrades others. Similarly, Scott Winship, an economist with Brookings, recently noted in an article in Forbes that “technological development will surely eliminate some specific jobs.” But the productivity gains from those developments, he added, “will lower the cost of goods and produce more discretionary income, which people will use to pay other people to do things for them, creating new jobs.”

What economists dub “skill-based technical change” is, in fact, causing both the elimination of formerly good-paying manufacturing jobs and the creation of high-paying new jobs. As a result, work is being bifurcated—into high-pay, high-skill knowledge jobs and low-pay, low-skill service jobs.

The second and more fundamental problem with the debate between utopians and dystopians is that technology, while important, is not deterministic. As the great theorists of technology, economic growth, and social development Karl Marx and Joseph Schumpeter argued—and modern students of technological innovation have documented—technology is embedded in the larger social and economic structures, class relationships, and institutions that we create. All the way back in 1858, in Grundrisse, Marx noted: “Nature builds no machines, no locomotives, railways, electric telegraphs, self-acting mules, etc. These are products of human industry.” Technological innovation, he went on “indicates to what degree general social knowledge has become a direct force of production, and to what degree, hence, the conditions of the process of social life itself have come under the control of the general intellect and been transformed in accordance with it.”

In his landmark 1990 book on economic progress from classical antiquity to the present, The Lever of Riches, the economic historian Joel Mokyr also distinguishes bomo economico, “who makes the most of what nature permits him to have,” from the Prometheus bomo cre atrius, who “rebels against nature’s dictates.” He places emphasis, like Schumpeter perhaps, on human beings’ underly ing creative ability to mold technology by building institutions, forging social compacts, making work better, building societies. Technology does not force us into a predetermined path but enables us, or, more to the point, forces us to make choices about what we want our future to be like.

We do not live in the world of The Matrix or the Terminator movies, where the machines are calling the shots. When all is said and done, human beings are technology’s creators, not its passive objects. Our key tasks during economic and social transformations are to build new institutions and new social structures and to create and put into effect public policies that leverage technology to improve our jobs, strengthen our economy and society, and generate broader shared prosperity.

OUR CURRENT PERIOD is less defined by either the “end of technology” or the “rise of robots” than by deep and fundamental transformations of our economy, society, and class structures. The kinds of work that Americans do have changed radically over the course of the last two centuries, in particular during major economic crises, like the Panic and Depression of 1873; the Great Depression of the 1930s; the Crash of 2008. Each shift has been hugely disruptive, eliminating previously dominant forms of employment and work, while generating entirely new ones.

In 1800 more than 40 percent of American workers made their livings in farming, fishing, or forestry, while less than 20 percent worked in manufacturing, transportation, and the like. By 1870, the share of workers engaged in those agricultural jobs had dropped to just 10 percent; during those same decades, the ranks of blue-collar manufacturing workers had risen to more than 60 percent.

That was not a smooth change, to say the least. Rural people feared—often rightly—that their friends and family who were moving to the cities were dooming themselves to immiseration and brutal exploitation, working 16-hour days for subsistence wages. When labor began to organize for better conditions, management hit back hard—in some cases unleashing armed Pinkertons on strikers. The Panic of 1873 and the Long Depression that followed it began as a banking crisis precipitated by insolvent mortgages and complex speculative instruments, and it brought the entire economy to a virtual standstill. But the technological advances perfected and put into place during that decade of economic stagnation—everything from telephones to streetcars—created the powerhouse industrial cities that underpinned a vast industrial expansion.

The battles, and the terrible working conditions, continued well into the 1930s, when my father went to work in a Newark, N.J., factory at age 11. Nine people in his family had to work—both parents, both grandparents, and several siblings—to make one family wage. The Industrial Revolution had been going on for more than a century before a new social compact was forged—a product of worker militancy, enlightened self-interest on the part of owners and management, and pressure from the government—that brought safety, dignity, and security to blue-collar work. It was this compact that buttressed the great age of productivity in the post-World War II era. When he returned from the war, my father’s job in the very same factory he had previously worked in had been transformed into a good, high-paying occupation, the kind we pine for today, which enabled him to buy a home and support a family.

But beginning around 1950, when Kurt Vonnegut was working for

Continued on Following Page

Changing Types of Work, 1800-2009

![Diagram showing changes in types of work from 1800 to 2009.](Image)
Our current economic circumstance is not simply the product of faceless technology; it is also informed and structured by socioeconomic class.

Many economists began to talk about how the industrial economy was transitioning to a service economy; others, like the sociologist Daniel Bell, saw the rise of a postindustrial economy powered by science, technology, and a new technocratic elite. The pioneering theorist Peter Drucker dubbed it a “knowledge economy.”

Almost a decade ago, in my book The Rise of the Creative Class, I called it a “creative economy,” because creativity, not knowledge, has become the fundamental factor of production. Our economy uses technology, but it is not principally powered by it. Its motive force is creativity. Economic and social progress result from the interweaving of several distinctive, related strands of creativity: innovative or technological creativity, entrepreneurship or economic creativity, and civic or artistic creativity.

The key organizing unit of the postindustrial creative economy is no longer the factory or the giant corporation. It is our communities and our cities. Cities are the organizing or pivot point for creativity, its great containers and connectors. Unlike the services we produce—our technologies we create, or the knowledge and information that is poured into our heads, creativity is an attribute we all share. It is innate in every human being. But it is also social, it lives among us. We make each other creative. With their dense social networks, cities push people together and increase the kinetic energy among them.

If the powerhouse cities of the industrial era depended on their location near natural resources or transportation centers, our great cities today turn on the people who live in them—they are where we combine and recombine our talents to generate new ideas and innovations. Like the Industrial Revolution, the rise of the knowledge-driven, creative economy has transformed the composition of the work force, with harrowing consequences. The picture is brutally clear. Working-class employment has declined by 30 percent in the last half century. Blue-collar workers made up 40 percent of the work force in 1980; they are just 20 percent of the work force today. In just the one decade between 2000 and 2010, the United States shed more than 5.7 million manufacturing jobs.

As the working class, like the agricultural class before it, has faded, two new socioeconomic classes have arisen: the creative class (40 million strong in the United States, roughly a third of the work force) and the even larger service class (60 million strong and growing, about 45 percent of the work force). If the creative class is growing, the service class is growing even faster. Last year the U.S. Bureau of Labor Statistics published a list of the fastest-growing occupational categories in the United States, projected out to 2020. Most of the top 10 were in the service sector. The two fastest-growing jobs, which are expected to grow by roughly 70 percent by 2020, were personal-care aides and home health aides. The former, which pays a median of just $19,640, will add more than 600,000 jobs; the latter, which pays $20,560, will grow by more than 700,000 jobs. There was only one clearly creative-class job in the top 10—biomedical engineer (an $81,540-a-year job).

Our current economic circumstance is not simply the product of faceless technology; it is also informed and structured by socioeconomic class. The divide goes even deeper. Add the ranks of the unemployed, the displaced, and the disconnected to those tens of millions of low-wage service workers, and the population of postindustrialism’s left-behinds surges to as many as two-thirds of all Americans. That produces a much larger, and perhaps permanent, version of the economic, social, and cultural underclass that Michael Harrington long ago dubbed “the other America.” Only this time, it’s a clear majority.

The effects of class extend far beyond our work and incomes to virtually every facet of our social lives. One class is not only wealthier and better educated than the other, its members are also healthier, happier, live in places with better services and resources of all sorts, and they pass their advantages on to their children.

The problem with this very common view is that it assumes that an employee working at a low-cost retailer can’t be any more productive than he or she currently is. It’s mindless work so it doesn’t matter who does it. If that were true, then it really wouldn’t make any sense to pay retail workers any more than the least you can get away with.

In a study published in the Harvard Business Review, Ton finds that the retail companies that invest the most in their lowest paid workers “also have the lowest prices in their industries, solid financial performance, and better customer service than their competitors.” As she has pointed out, the companies and jobs provide a powerful model that can be extended to other service-based jobs like those in hospitals, restaurants, banks, and hotels. Upgrading service jobs in this way, she says, “could help provide the kind of economic boost the economy needs.”

We can’t simply write off the tens of millions of workers who toil in dead-end service jobs, or the millions more who are unemployed and underemployed. The key to a broadly shared prosperity lies in new social and economic arrangements that more fully engage, not ignore and waste, the creative talents of all of our people.

As in the past, it won’t be technology that determines our economic future. It will be our ability to mold it to our needs.
The Barbed Gift of Leisure

By MARK KINGWELL

A maga

The basic problem is that the robot helper is also scary. Indeed, a primal fear of the constructed other reaches further back in literary and cultural memory than science fiction’s heyday, encompassing the golem legend as much as Mary Shelley’s modern Prometheus, Frankenstein, and his monster. At least since Karel Capek’s 1920 play R.U.R.—the work that is believed to have introduced “robot” into English—the most common fear associated with the robotic worker has been political, namely that the mechanical or cloned proletariat, though once enf

Work is of two kinds,” Bertrand Russell notes in his essay “In Praise of Idleness”: “first, altering the position of matter at or near the earth’s surface relatively to other such matter; second, telling other people to do so. The first kind is unpleasant and ill paid; the second is pleasant and highly paid.” On this view, the robot is revealed as the mechanical realization of our desire to avoid work of the first kind while indulging a leisurely version of the second kind, a sort of generalized Downton Abbey fantasyland in which everyone employs servants who cook our meals, tend our gardens, help us dress, and—yes—make our beds.

Even here, one might immediately wonder whether the price of non-human servants might prove, as with human ones, prohibitively high for many. And what about those humans who are put out of work forever by their robot replacements? As with drugs and tools, that which was once creative, at least smacked of purpose.

The Barbed Gift of Leisure

By MARK KINGWELL

A maga

The basic problem is that the robot helper is also scary. Indeed, a primal fear of the constructed other reaches further back in literary and cultural memory than science fiction’s heyday, encompassing the golem legend as much as Mary Shelley’s modern Prometheus, Frankenstein, and his monster. At least since Karel Capek’s 1920 play R.U.R.—the work that is believed to have introduced “robot” into English—the most common fear associated with the robotic worker has beenpolitical, namely that the mechanical or cloned proletariat, though once accepting of their untermenschlich status as labor-savers for us, enablers of our leisure, will revolt.

“Work is of two kinds,” Bertrand Russell notes in his essay “In Praise of Idleness”: “first, altering the position of matter at or near the earth’s surface relatively to other such matter; second, telling other people to do so. The first kind is unpleasant and ill paid; the second is pleasant and highly paid.” On this view, the robot is revealed as the mechanical realization of our desire to avoid work of the first kind while indulging a leisurely version of the second kind, a sort of generalized Downton Abbey fantasyland in which everyone employs servants who cook our meals, tend our gardens, help us dress, and—yes—make our beds.

Even here, one might immediately wonder whether the price of non-human servants might prove, as with human ones, prohibitively high for many. And what about those humans who are put out of work forever by their robot replacements? As with drugs and tools, that which was once creative, at least smacked of purpose.
can be swift. What lives and thinks, whether carbon- or iron-based, is capable of existential suffering and its frequent companion, righteous indignation at the thought of mortality. Just ask Roy Batty, the Nexus-6 replicant who tearfully murders his maker, Dr. Eldon Tyrell, in Ridley Scott's Blade Runner, by driving his thumbs into the genius's eye sockets. (The Tyrell Corporation's motto: “More human than human.”) This movie ends, significantly, with hand-to-hand combat between Batty and Rick Deckard, the state-sponsored assassin who (a) is in love with a replicant who didn't know she was one and (b) may be a replicant himself. (Here we see most clearly the philidickian origins of the material.)

Generalized across a population of robotic or otherwise manufactured workers, these same all-too-human emotions can become the basis of that specific kind of awareness known as class consciousness. A revolt of the clones or the androids is no less imaginable, indeed might be even more plausible in a future world, than a wage-slave rebellion or a national liberation movement. Cloned, built, or born—what, after all, is the essential difference when there is consciousness, and hence desire, in all three? Eeze robo. We may not bleed when you prick us; but if you wrong us, shall we not revenge?

A S O O F T E N, the price of freedom is eternal vigilance. The robots, like the rabble, must be kept in their place. But there are yet other woes hidden in the regime of leisure gained by offloading tasks to the robo-sers, and they are even more troubling.

If you asked the bed-making-hating young man, I'm sure he would tell you that anything is preferable to performing the chore, up to and including the great adolescent activity of doing nothing. A recent Bruno Mars song in praise of laziness sketches how the height of happiness is reached by, among other nonactivities, staring at the fan and chilling on a couch in a Snuggie. (Yes, there is also some sex involved later.) This may sound like bliss when you're resenting obligations or tired of your job, but its pleasures rapidly pale. You don't have to be a idle-hands-are-devil's-work Puritan—or even my own mother, who made us clean the entire house every Saturday morning so we could not watch cartoons on TV—to realize that too much nothing can be bad for you.

We have always sensed that free time, time not dedicated to a specific purpose, is dangerous because it implicitly raises the question of what to do with it, and that in turn opens the door to the greatest of life mysteries: why we do anything at all. Thorstein Veblen was right to see, in The Theory of the Leisure Class, not only that leisure time offered the perfect status demonstration of not having to work, that ultimate non-material luxury good in a world filled with things, but also that, in thus joining leisure to conspicuous consumption of other luxuries, a person with free time and money could endlessly trapeze above the yawning abyss of competition. With the alchemy of competitive socialist position governing one's leisure, there is no need ever to look beyond the art collection, the fashion parade, the ostentatious sitting about in luxe cafes and restaurants, no need to confront one's mortality or the fleeting banality of one's experience thereof.

Even if many of us today would cry foul at being considered a leisure class in Veblen's sense, there is still a pervasive anxiety of leisure in our so-called leisure activities. For the most part, these are carved out of an otherwise work-dominated life, and increasingly there is a more permeable boundary between the two parts. One no longer lives for the weekend, since YouTube videos can be sparked in spare moments at the office, and memos can be written on smartphones while watching a basketball game on TV over the weekend. What the French call la perruque—the soft pilfering of paid work time to perform one's own private tasks—is now the norm in almost every workplace.

Stories about the lost productivity associated with this form of work-avoidance come and go without securing any real traction on the govern- ing spirit of the work world. The reason is simple. Despite the prevalence of YouTubeing and Facebooking while at work—also Pinterest-updating and Buzzfeed-sharing—bosses remain largely unconcerned; they know that the comprehensive presence of tasks and deadlines in all corners of life easily balances off any moments spent updating Facebook while at a desk. In fact, the whole idea of the slack and of slacking smacks of pre-Great Recession luxury, when avoiding work or settling for nothing jobs in order to spend more time thinking up good chord progressions or T-shirt slogans was a lifestyle choice.

The irony of the slacker is that he or she is still dominated by work, as precisely that activity which must be avoided, and so only serves to reinforce the dominant values of the economy. Nowadays slacking is a mostly untenable option anyway, since even the crap jobs—grinding beans or demonstrating game-console features—are being snapped up by highly motivated people with good degrees and lots of extracurricular credits on their résumés. Too bad for them; but even worse for today's would-be slackers, who are iced out of the niche occupations that a half-generation earlier supported the artistic ambitions of the mildly resistant.

It is still worth distinguishing between the slacker, of any description, and the idler. Slacking lacks a commitment to an alternative scale of value. By contrast, the genius of the genuine idler, whether as described by Diogenes or Jerome K. Jerome, is that he or she is not interested in work at all, but instead devoted to something else. What that something else involves is actually less important than the structural deflection from the values of working. In other words, idling might involve lots of activity, even what appears to be effort; but the essential difference is that the idler does whatever he or she does in a spirit of infinite and cheerful uselessness that is found in all forms of play. Idling at once poses a challenge to the reductive, utilitarian norms that otherwise govern too much of human activity and provides an answer—or at least the beginning of one—to the question of life's true purpose. It is not too much to suggest that being idle, in the sense of enjoying one's open-ended time without thought of any specific purpose or end, is the highest form of human existence. This is, to use Aristotelian language, the part of ourselves that is closest to the divine, and thus offers a glimpse of immortality. To be sure, from this Olympian vantage we may spy new purposes and projects to pursue in our more workaday lives; but the value of these projects, and the higher value from which these are judged, can be felt only when we slip the bonds of use.

Naturally something so essential to life can be easy to describe and yet surpassingly difficult to achieve. To take just the example most proximate to our current shared consciousness—I mean the experience you are having reading these words—I can tell you that I am writing them, on a deadline, while taking a train trip to deliver a keynote lecture. The trip was arranged months ago, with time carved out of my teaching schedule and the usual grid of meetings with students, colleagues, committees, and administrators that marks the week of any moderately busy university professor. I say nothing of the other obligations, social and cultural, the reading I need to do for next week's seminars, the papers that must be grad-ed, and so on.

Believe me, I am well aware of, and feel blessed by, the fact that my job is itself arguably an enjoyable and rewarding form of idling. I also know how lucky I am to have luxuries such as taking a train journey in the first place—or confess that the train was chosen in part because it creates more productive time than traveling by the ostensibly more efficient air route. (I just checked my e-mail again, using the train's Wi-Fi connection.)

This is not a complaint; it is, rather, a confession of the difficulties lurking in all forms of work, even the most enjoyable ones. In fact, the more freely chosen a work obligation, the harder it is to perceive that it involves lots of activity, even what appears to be effort; but the essential difference is that the idler does whatever he or she does in a spirit of infinite and cheerful uselessness that is found in all forms of play.

We have always sensed that free time, time not dedicated to a specific purpose, is dangerous because it implicitly raises the question of what to do with it.

Continued From Page B13
When avoiding work or settling pre-Great Recession luxury, and of slacking smacks of the spectacle isn’t really about what is showing on the screens of the multiplex or being downloaded on the computers of the nation; indeed, there is actually nothing to rule out the possibility of playful, even critical artifacts appearing in those places—at all, where else? Spectacle is, rather, a matter of social relations, just as the commodity in general is, which need to be addressed precisely by those who are subject to them, which is everyone. “The spectacle is not a collection of images, but a social relation among people, mediated by images,” Debord says. And: “The spectacle is the other side of money: It is the general abstract equivalent of all commodities.”

We are no longer owners and workers, in short; we are, instead, voracious and mostly quite happy producers and consumers of images. Nowadays, the images are mostly of ourselves, circulated in an apparently endless frenzy of narcissistic exhibitionism and equally narcissistic voyeurism: my looking at your online images and personal details, consuming them, is somehow still about me. Debord was prescient about the role that technology would play in this general social movement. “Just when the mass of commodities slides toward puerility, the puerile itself becomes a special commodity; this is epitomized by the gadget. ... Reified man advertises the proof of his intimacy with the commodity. The fetishism of commodities reaches moments of fervency, similar to the ecstasies of the convulsions and miracles of the old religious fetishism. The only use which remains here is the fundamental use of submission.”

It strikes me that this passage, with the possible exception of the last sentence, could have been plausibly recited by Steve Jobs at an Apple product unveiling. For Debord, the gadget, like the commodity more generally, is not a thing; it is a relation. As with all the technologies associated with the spectacle, it closes down human possibility under the guise of expanding it; it makes us less able to form real connections, to go off the grid of produced and consumed leisure time, and to find the drifting, endlessly recombining idler that might still lie within us. There is no salvation from the baseline responsibility of being here in the first place to be found in machines. In part, this is a simple matter of economics in the age of automation. “The technical equipment which objectively eliminates labor must at the same time preserve labor as a commodity,” Debord notes. “If the social labor (time) engaged by the society is not to diminish because of automation, ... then new jobs have to be created. Services, the tertiary sector, swell the ranks of the army of distribution.” This inescapable fact explains, at a stroke, the imperative logic of growth in the economy, the bizarre fetishizing of GDP as a measure of national health.

More profoundly, though, is a point that returns us to the original vision of a populace altogether freed from work by robots. To use a good example of critical consciousness emerging from within the production cycles of the culture industry, consider the *Assim*, the passenger spaceship that figures in the 2008 animated film WALL-E. Here, robot labor has proved so successful, and so nonthreatening, that the human masters have been freed to indulge in nonstop indulgence of their desires. As a result, they have over generations grown morally obese, addicted to soft drinks and video games, their bones liquefied in the ship’s microgravity conditions. They exist, but they cannot be said to live.

The gravest danger of offloading work is not a robot uprising but a human downgrading. Work skills, challenges cognition, and, at its best, serves noble ends. It also makes the experience of genuine idling, in contrast to frenzied leisure time, even more valuable. Here, with only our own ends and desires to contemplate—what shall we do with this free time?—we come face to face with life’s ultimate question. To ask what is worth doing when nobody is telling us what to do, to wonder about how to spend our time, is to ask why we are here in the first place. Like so many of the standard philosophical questions, these ones butt up, however playfully, against the threshold of mortality.

And here, at the limit of life that slitting alone brings us to view in a nonthreatening way, we find another kind of nested logic. Call it the two-step law of life. Rule No. 1 is tomorrow we die; and Rule No. 2 is nobody, not even the most helpful robot, can change Rule No. 1. Two-step law of life. Rule No. 1 is tomorrow we die; and Rule No. 2 is nobody, not even the most helpful robot, can change Rule No. 1. Enjoy!

Mark Kingwell is a professor of philosophy at the University of Toronto. His most recent book is *Unruly Voices: Essays on Democracy, Civility, and the Human Imagination* (Biblioasis, 2012).
Robots Behind Bars

The history of artificial intelligence is one of fiction made real. In 1843, Charles Babbage and Ada Lovelace (Lord Byron’s daughter) began discussing the possibility of a mechanical thinking machine. In the 1990s, computational programs that could play chess and solve word puzzles, along with the popularity of science-fiction novels, gave birth to wildly enthusiastic (and unrealistic) expectations that robots would soon take over most (if not all) human tasks. In 2012, South Korea started using robots as prison guards, partially because robots would be unlikely to accept bribes (the country already employed robots as teachers and border soldiers).

In 1981, however, a more disturbing milestone took place: Kenji Urada, a Japanese factory worker, became the first confirmed case of a human being killed by a robot. The 37-year-old Urada was performing maintenance at a Kawasaki plant and had forgotten to power down the robot he was working on. When the robot’s powerful hydraulic arm continued to go about its task, Urada was pushed into nearby machinery and killed. The seemingly simple question of who was criminally liable for Urada’s death turns out to be anything but straightforward.

In When Robots Kill: Artificial Intelligence Under Criminal Law (forthcoming from Northeastern University Press), Gabriel Hallevy explores the legal consequences of the rise of robots. While the field of “robotics” has a storied history (ranging from Isaac Asimov’s “Three Laws of Robotics” to the 2004 Fukuoka “World Robot Declaration”), scholars of robots and criminal law are frequently cited in Israeli Supreme Court cases, Hallevy worries that some legal scholars think he can’t “distinguish between science and science fiction.”

Still, dangers persist for the serious scholar who delves too deeply into robotic futurist themes. Although his work is frequently cited in Israeli Supreme Court cases, Hallevy worries that some legal scholars think he can’t “distinguish between science and science fiction.” While he thinks the intersection of robotics and the law is home to promising research, some book topics (like that of David Levy’s Love and Sex With Robots) might give sensational impressions that aren’t always warranted.

But Hallevy remains committed to what this project has taught him: “Either we impose criminal liability on AI entities, or we must change the basic definition of criminal liability as we developed over thousands of years, and abandon the traditional understandings of criminal liability.”

—David Wescott
The following list has been compiled from information provided by the publishers. Prices and number of pages are sometimes approximate. Some publishers offer discounts for scholars and to people who order in bulk.

ANTHROPOLOGY


WELLING BEYOND WORDS: MAYA COMPOSITIONS OF SPEECH AND SILENCE IN MEDICAL CARE, by T.S. Harvey (University of New Mexico Press; 216 pages; $51). A study of Maya language use in medical settings in highland Guatemala that examines both the pairings of Maya healer and patient and Ladin healer and Maya patient.

ART AND ARCHITECTURE

ARTIST ANIMAL, by Steve Baker (University of Minnesota Press; 304 pages; $90 hardcover, $29.95 paperback). Discusses Sue Coe, Eduardo Kac, Lucy Kimball and other artists whose works reflect a view of animals actively sharing the world with human beings.

IMAGINING THE PASSION IN A MULTI-CONFESSIONAL CASTILE: THE VIRGIN OF NEW MEXICO PRESS; 256 pages; $55). A study of New Mexico art, the reciprocal in sharing the world with human beings.

COMMUNICATION

MOMMBLOGS AND THE CHANGING FACES OF MOTHERHOOD, by Mary Firzian (University of Toronto Press; 208 pages; US$55 hardcover, US$22.95 paperback). Examines the changing nature of motherhood as reflected in writings by North American and other bloggers.

ECONOMICS

FREEDOM TO HARM: THE LASTING LEGACY OF THE LAISSEZ FAIRE REVIVAL, by Thomas O. McGarity (Yale University Press; 304 pages; $45). Documents how a coalition of business and conservative interests acted to roll back the American regulatory and civil justice reforms of the 1960s and 1970s.


EDUCATION


LITERATURE

KILLER TAPES AND SHATTERED SCREENS: VIDEO SPECTATORSHIP FROM VHS TO FILE SHARING, by Gertlein Bannett-Atoll (University of California Press; 512 pages; $75 hardcover, $34.95 paperback). A study of how movies themselves represent the relationship between spectator and viewing “platform.”

MEN AND MASCULINITIES IN IRISH CINEMA, by Deirdre Cong (Palgrave Macmillan; 212 pages; $85). Changes traces in the image of Irish masculinity from the 1922 partition of Ireland to the “New Laddish” of recent years.

HISTORY

AFRICA AND FRANCE: POST-COLONIAL CULTURES, MIGRATION, AND RACISM, by Dominic Thomas (Indiana University Press; 144 pages; US$80 hardcover, $29.95 paperback). Topics include the institutionalization of ex-nepholia under former President Sarkozy.

BANFF MOUNTAIN’S GENERAL HISTORY AND COMMUNITY LIFE IN TANZANIA AND ANDERMATH, by Linda English (University of Oklahoma Press; 268 pages; US$29.95). Focuses particular attention to women, German immigrants, blacks, and American Indians with an emphasis on the history of general stores in Tanzania and what became Okahomba.


A GREAT AND MONSTROUS THING: LONDON IN THE EIGHTEENTH CENTURY, by Jerry White (Harvard University Press; 704 pages; $19.95). Documents the intense chaos and other divisions of the new city that emerged in the wake of the Great Fire of 1666.


HOMELESS POVERTY AND PLACE IN URBAN AMERICA, by Elia Howard (University of Pennsylvania Press; 276 pages; $45). Focuses on New York’s Bowery district in a study of the rise and fall of America’s skid rows.

RICHMOND MUST FALL: THE RICHMOND-PETERSBURG CAMPAIGN, OCTOBER 1864, by Hampton Newman (Kent State University Press; 400 pages; $65). A study of three battles between the forces of Generals Grant and Lee in Virginia.

SEEING BEAUTY, SENSING RACE IN TRANSCONTINENTAL INDONISIA, by L. Ayy Saraswati (University of Hawaii Press); 352 pages; $52 hardcover, $21.95 paperback). Explores Western and Eastern ideas that have shaped hierarchies of race, skin color, gender, and beauty.

THE STRANGE HISTORY OF THE AMERICAN GLAUCODON: FREE WOMEN OF COLOR IN THE REVOLUTIONARY ATLANTIC, by Emily Clark (University of North Carolina Press; 296 pages; $35). Contrasts the literature of the abolition movement of the era with romanticized depictions of female revolutionaries in New Orleans and the reality of life for free women of color, who in the 1820s were as likely to marry as white women.


HISTORY OF MEDICINE

THE LAST PLAGUE: SPANISH INFLUENZA AND THE POLITICS OF PUBLIC HEALTH IN CANADA, by Mark Osborne Humphries (University of Toronto Press; 438 pages; US$70 hardcover, US$29.95 paperback). Traces the public-policy impact of the 1918 epidemic, which killed as many as 10,000 Canadians.

LAW

SAYING THE NEIGHBORHOOD RACIALLY RESTRICTIVE COVENSANTS, LAW, AND SOCI- AL NORMS, by Richard R.W. Brooks and Carol M. Rose (Harvard University Press; 104 pages; $49.95). Traces the rise, fall, and lasting legacy of once-legal covenants that restricted occupancy and ownership of property by race.

LITERATURE

AVANT-GARDE CANADIAN LITERATURE: THE EARLY MANIFESTATIONS, by Gregory Berls (University of Toronto Press; 328 pages; US$86). Focuses on mystical revolutionary texts from the 1910s to the 1940s. CanLit and authors from the 20s to 60s, and Narcissism from the 20s to 70s.


THE MAHATMA MISUNDERSTOOD: THE POLITICS AND FORMS OF LITERARY NA- TIONALISM IN INDIA, by Snutha Chingvui (Anthem Press; 255 pages; $99). Explores Indian writers’ critical engagement with Gandhi and identifies an ambivalence in what has been considered nationalist fiction.

THE PRACTICE OF SATIRE IN ENGLAND, 1690-1770, by Ashley Marshall (Johns Hopkins University Press; 456 pages; $95). Argues that beyond canonical works, such as Pope’s Dunciad, to analyze satirical practices in some 5,000 texts from one-page squibs to novels.


MUSIC

THE ACCESSIBILITY OF MUSIC: PARTICI-
PHILosophy


Uses the three Continental thinkers to translate as “activity” rather than “actuality,” and thus that Aristotle thinks of some aspect of being the three Continental thinkers to translate as “activity” rather than “actuality,” and thus that Aristotle thinks of some aspect of being.

Regret, Attachment, and the Limits of Punishment, Reception, and Contact, by J. Winkler (Fordham University Press; 212 pages; $55). Focuses on the “Reagan plan” of 1982; the period after the Madrid Peace Accords and before the Reagan administration.

Highening the difficulties generated by a new set of unifying political symbols in the post-Soviet era.

Religion


Urban Studies


BROkERS OF DECEIT: How the US Has Betrayed Its Friends and Allies, by M. J. Long (Yale University Press; 288 pages; $45). A work in moral philosophy that explores how our views of our past actions are shaped by our present attachments.

BAfrican Development Statistics and What to Do about It, by Morten Jerven (Cornell University Press; 176 pages; $65 hardcover, $27.95 paperback). Documents how the lack of reliable data affects aid and policy making, and therefore the welfare of citizens.

Avoiding and Regime Change in Russia, by Graham Gille (Cambridge University Press; 220 pages; $155 hardcover, $44.95 paperback). Focuses on the “Reagan plan” of 1982; the period after the Madrid Peace Accords and before the Reagan administration.

EAST, by Rashid Khalidi (Beacon Press; 167 pages; $24.95). Focuses on the “Reagan plan” of 1982; the period after the Madrid Peace Accords and before the Reagan administration.

POLITICAL SCIENCE

Brokers of Deceit: How We Have Undermined Peace in the Middle

East, by Rashid Khalidi (Beacon Press; 167 pages; $24.95). Focuses on the “Reagan plan” of 1982; the period after the Madrid Peace Accords and before the Reagan administration.

Final Four Upsets By Patrick Berry

26 Post-up shop, Abbr.
27 Female in a herd
28 Name shared by thirteen popes
29 The Star-Spangled Banner contract
30 Inconvenience
31 Mental slip
32 Component of bronze
33reet time unit
34 Gems usually without facets
35 Short flight
36 Tides stock
37 Highish grade
38 Female in a flock
39 Much-criticized Pontiac
model
40 Sheridan’s Malaprop
41 Chinese zodiac animal
42 Without means
43 Look up
44 Relied
45 New Haven student
46 Easter-to-London dir.
47 Like Allen wrenches
48 Stomach muscles
49 Twin in Genesis
50 Bile-exuding salutation
51 Looks for bugs in
52 Turned on
53 Relief
54 On average
55 New Haven student
56 Easter-to-London dir.
57 Like Allen wrenches
58 Stomach muscles
59 Twin in Genesis
60 Bile-exuding salutation
61 Looks for bugs in
62 Slow on the uptake
63 Object of admiration
64 Coin featuring
65 The Union Shield
66 Old Norse letters
67 Course activity
68 Valuable red card in canasta
69 Figure-skating feats
70 Speaking in vehicles
71 No Time for Sergeants
72 Director Mervyn
73 Pulp-fiction hero __ Savage
74 S. & L. offerings
75 Create part of a flower?
76 Warm coat
77 Lao-tzu principle
78 Particularly impressive government investment option?
79 Like some swimming pools
80 Of the biography Woman in the Mist
81 Comic duo that includes a multibeaed monster
82 Sight seer
83 Female parent’s annoyance?
84 Toss with a high arc
85 Google Play purchase
86 Handgun?
87 Fail to speak clearly
88 Site of Drake University
89 Salute
90 Father __ (cuit comedy from Ireland)

WHAT’S UP?

50 Words spoken while holding one’s hands apart
51 Inner rind
52 Hexaped
55 Ending for social or class
56 How lovers dine
57 Ridged pasta
58 Stand in a loft
59 From purchase
63 Magazine founder’s surname
64 1916 presidential candidate
65 London
69 Rooting area

Answer to Previous

Theme: History

Across
1 Heavy dancing shoes
6 “What’s the ___”
12 End of the week
15 The Ponte Santa Trinita
16 Exam format
17 Novelist Jong
18 Legal woes
19 Green copper?
21 Citi Field predecessor
22 Lottery picks, Abbr.
24 Abbreviated, for short
25 listed, for short
26 Post-up shop, Abbr.
27 Female in a herd
28 Name shared by thirteen popes
29 The Star-Spangled Banner contract
30 Inconvenience
31 Mental slip
32 Component of bronze
33 Geologic time unit
34 Gems usually without facets
35 Short flight
36 Tides stock
37 Highish grade
38 Female in a flock
39 Much-criticized Pontiac
model
40 Sheridan’s Malaprop
41 Chinese zodiac animal
42 Without means
43 Look up
44 Relied
45 New Haven student
46 Easter-to-London dir.
47 Like Allen wrenches
48 Stomach muscles
49 Twin in Genesis
50 Bile-exuding salutation
51 Looks for bugs in
52 Turned on
53 Relief
54 On average
55 New Haven student
56 Easter-to-London dir.
57 Like Allen wrenches
58 Stomach muscles
59 Twin in Genesis
60 Bile-exuding salutation
61 Looks for bugs in
62 Slow on the uptake
63 Object of admiration
64 Coin featuring
65 The Union Shield
66 Old Norse letters
67 Course activity
68 Valuable red card in canasta
69 Figure-skating feats
70 Speaking in vehicles
71 No Time for Sergeants
72 Director Mervyn
73 Pulp-fiction hero __ Savage
74 S. & L. offerings
75 Create part of a flower?
76 Warm coat
77 Lao-tzu principle
78 Particularly impressive government investment option?
79 Like some swimming pools
80 Of the biography Woman in the Mist
81 Comic duo that includes a multibeaed monster
82 Sight seer
83 Female parent’s annoyance?
84 Toss with a high arc
85 Google Play purchase
86 Handgun?
87 Fail to speak clearly
88 Site of Drake University
89 Salute
90 Father __ (cuit comedy from Ireland)
OBSERVER

I Don’t Want to Be Mooc’d

By ALBERT J. SUMELL.

The MOOC option will not offer the same experience, students may not find it as enjoyable, and they may not learn as much, but it will be available at a fraction of the cost of the in-person alternative. Many students will choose the MOOC, and no one should berate them for it. It is a very rational decision.

When the MOOC is a viable option, it will probably not significantly affect most large public research and elite private institutions. Those institutions sell more than an education or a degree; they offer a college experience and a level of prestige that will not diminish as a result of online courses. Some institutions will benefit from such courses.

But at smaller, lower-ranked institutions like mine—those typically with a city rather than a state in their names—MOOCs present a greater concern. Cost is a more important factor for our students in deciding whether and where to enroll. We would see decreased enrollment and tuition revenue, and without an unexpected increase in public support, we would be forced to further reduce the number of tenure-track faculty positions and/or compensation to current faculty members as a result.

Which is just another example of creative destruction: Something that is more appealing to consumers is offered that makes the older product obsolete. But this time, I am that older product. So I ask myself, will society as a whole be better off as a result? I know what the economics textbooks say, and I know what I have always told my students. But it is a lot easier to believe in a theory when it is about the world in general, rather than about your world in particular.

When I talk about creative destruction with my students now, I am not quite as dogmatic as I used to be. I tell them that there are exceptions to every theory. I do not tell them that I hope that I am one of them.

Albert J. Sumell is an associate professor of economics at Youngstown State University.

I Don’t Want to Be Mooc’d

Creative destruction is a fine economic theory, until you become its object.

society as a whole is better off, and the car keeps moving forward. As for those who lose their jobs, well, they can go back to school to get trained with new skills and eventually find another job that is more relevant to the current needs and desires of society.

That’s a description of creative destruction, and basically how I have always taught the process to my students. More than that, I have always believed it to be true. But in the case of MOOCs (massive open online courses), I’ve allowed myself to hold onto some doubt.

No one knows for sure how popular MOOCs will become or exactly how they will alter higher education. However, given the current trajectory, it seems inevitable that, at some point, college students will have the option of taking a course with a person in a classroom or as a MOOC for an equivalent number of credits.

Cassette tapes have been replaced by CD’s, and they in turn have been replaced by MP3’s. GPS’s replaced printed maps, and they are now being replaced by cellphones, which also happened to have replaced pay phones and many other products. There are lots of examples, but the outcome is the same. New products replace older products, and those older products become obsolete. The new products are better or cheaper or more appealing to consumers. It is not just how capitalism works; it is also why it works.

That dynamic is the wheels on the metaphorical car of the market system. Sure, some people are made worse off as a result, but the benefits to consumers and other producers generally far exceed the costs to those who are hurt. In the end, society as a whole is better off, and the car keeps moving forward.

The MOOC option will not offer the same experience, students may not find it as enjoyable, and they may not learn as much, but it will be available at a fraction of the cost of the in-person alternative. Many students will choose the MOOC, and no one should berate them for it. It is a very rational decision.

When the MOOC is a viable option, it will probably not significantly affect most large public research and elite private institutions. Those institutions sell more than an education or a degree; they offer a college experience and a level of prestige that will not diminish as a result of online courses. Some institutions will benefit from such courses.

But at smaller, lower-ranked institutions like mine—those typically with a city rather than a state in their names—MOOCs present a greater concern. Cost is a more important factor for our students in deciding whether and where to enroll. We would see decreased enrollment and tuition revenue, and without an unexpected increase in public support, we would be forced to further reduce the number of tenure-track faculty positions and/or compensation to current faculty members as a result.

Which is just another example of creative destruction: Something that is more appealing to consumers is offered that makes the older product obsolete. But this time, I am that older product. So I ask myself, will society as a whole be better off as a result? I know what the economics textbooks say, and I know what I have always told my students. But it is a lot easier to believe in a theory when it is about the world in general, rather than about your world in particular.

When I talk about creative destruction with my students now, I am not quite as dogmatic as I used to be. I tell them that there are exceptions to every theory. I do not tell them that I hope that I am one of them. 

Albert J. Sumell is an associate professor of economics at Youngstown State University.