# Introduction

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Humans have been worried about the future of work since the dawn of machines. But those concerns are rarely about some distant roboticized future. They're usually about today, and the nagging belief that there are cracks in the system of work that will mean that lots of humans could be left behind tomorrow.

Of course, until early 2020 many thought the seismic shift in work would be catalyzed by automation and globalization. But we know that the real impact on work comes from the pace and scale of change. Those twin forces create several possible futures of work. Yet that will be a future we will create together, by anticipating and co-creating the Next Rules of Work.

It's rather ironic that I would write about rules, since I've grown up professionally in Silicon Valley, which prides itself on moving fast and breaking things like, well, rules.

And yet, when it comes to work, rules there are. (Although, in many cases, to paraphrase Paul Newman in *Butch Cassidy and the Sundance Kid*, they're often more like *guidelines* than rules.) Many of the rules are unseen, functioning not so much as strictures carved in stone, but as fluid practices intended to help optimize toward successful outcomes.

In an ideal world, we would all have been taught these practices from a young age, so we would be better prepared for constant, disruptive change as adults. But I'm guessing that didn't happen for you, either.

Instead, most of us had to figure out the Rules of Work as we went along. And then… the rules changed. Again. And again. With no roadmap. No manual.

So here's a manual. I hope it will provide you with the combination of insights and actions that can empower you, your team, and your organization.

We'll do a brief scan of the Old Rules of Work, practices that stretch back a surprisingly long time in the short history of humans. We'll see how the rules of work have always changed—but never so quickly as today. That will make it abundantly clear why we need not just New Rules, but *Next* Rules.

We'll see that there are four essential Next Rules, guidelines for the ways that a few people work today, and many will be working tomorrow.

We'll find that the three legs of the stool for tomorrow's work leverage your mindset, your skillset, and a constantly changing toolset. There are useful strategies for each of these, to help us thrive in a world of disruptive change and uncertainty.

Finally, we'll explore the ways that each of our own actions can help to create the future we all want. (I'll give you a simple preview: *no human left behind*.)

Think of this as a cookbook for ideas, not just about what's next, but for what's now. Some cookbooks give very specific recipes, exact measurements, and exacting instructions. This isn't that. It's a landscape of ideas to help catalyze. If it works, the number one deliverable will be a new mindset about work, for you, your team, and your organization. You'll also have a number of opportunities to develop a new skillset. And, you'll read about a variety of new options for your toolset. But the main deliverable is that Next Mindset.

Given the space limitations of atoms arranged on paper, my website has a lot of bits with much fewer constraints. You'll find gbolles.com a dynamic companion to the book.

## The Pace and Scale of Change

In late 2019, the topic of the future of work to most people was just theory. Though many of us had been talking for some time about important strategies such as a dramatic shift to using digital technologies, and leveraging the skillsets of distributed teams, many of those who lead organizations felt little urgency to change.

Then, in early 2020, the future of work shifted nearly overnight from theory to practice. In a study on organizational change that year, the Institute for Corporate Performance (i4cp) found that two-thirds of the more than 7,000 surveyed executives said their organization had experienced disruptive change. Not much surprise there.

While many futurists have for decades projected the disruptive impact of breakthrough technology, the godfather of the vision of a tech-fueled future is Ray Kurzweil, author of books like *The Singularity Is Near*.[1] I first met Ray when he joined me for a speaking series throughout New England in the early 2000s. Spending several days driving with him from one venue to the next was a master class in innovation. In 2008, Ray became the co-founder of Singularity University (SU), and a few years later I began working with SU as the adjunct Chair for the Future of Work. Ray famously plotted the "exponential" curve of microprocessors and other breakthrough technologies, showing how dramatically they have continued to improve in function as they drop in cost, and how they have rapidly helped to disrupt a range of industries.

Many other authors have predicted never-ending waves of disruptive technologies. In *Rethinking Humanity*,[2] authors Tony Seba and James Arbib predicted a range of breakthroughs in the five "foundational sectors" of information and communications technology, energy, transportation, food, and physical materials.

These and many other futurists maintain that huge jumps forward in these industries are not a matter of if, but when. As evidence, they point to the substantial disruptions to each of these industries that are already under way. For example, renewable energy in many markets around the world is already more cost-effective than fossil fuels, disrupting those markets past the point of long-term profitability.

There is no question that new technologies are being created and widely used with increasing speed. Look at how quickly technologies like the mobile phone were adopted compared with, say, the microwave oven.

But let's not take the Silicon Valley narrative *too* far. Technology matters. But changing customer behavior, movement in global markets, and shifts in government policy all determine if a new technology will actually trigger disruption, or if the world will simply shrug it off as "too early." The modern global pandemic catalyzed disruptive change that had little to do with technology, and everything to do with how we react to sudden shocks to the system.

Our real challenge is not simply wave after wave of technology. Certainly since the advent of the Internet era, it is the *pace* and the *scale* of change that are washing over our organizations, our industries, and our lives.

First, the *pace* of change. The influential economist Jeffrey Sachs has rightly pointed out that the inevitable conclusion is that many of our greatest challenges are coming from the pace of change, and that pace is accelerating. Of course, the pace of change is both an objective

FIGURE 0.1   Technology adoption rate 1970–2016
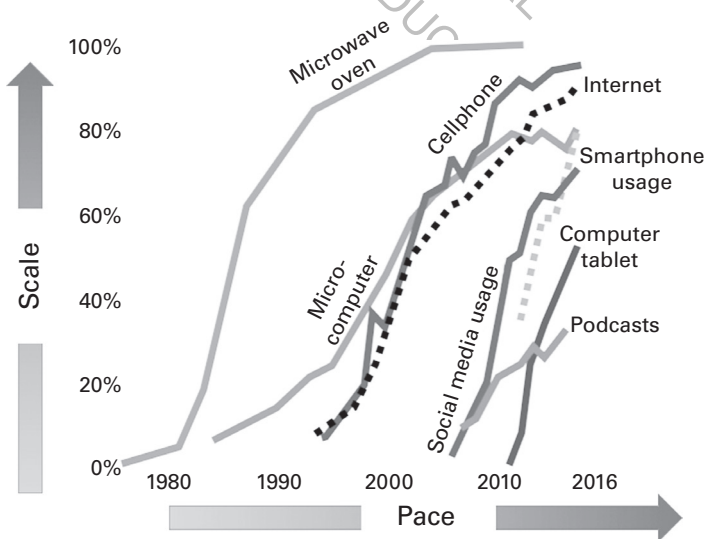


SOURCE  Visual Capitalist[3]

and a subjective measure. Depending on where you live and work, you might be insulated from change, or you might feel so much change that it is overwhelming your ability to manage it. But as breakthrough technologies seem to spring from the pages of science fiction books, the latter is the most common observation.

The pace of change affects the world of work in many ways. Rivers of news flood our senses, often making it difficult to sift out what is relevant to our work. Thousands of new apps are released every month, requiring us to learn new tools for our work. Perhaps most challenging, the shelf life of relevant information in many fields is shortening, requiring us to continually learn new techniques and skills.

As advertising and marketing guru Shelly Palmer, CEO of the Palmer Group, is fond of saying, "Today is the slowest day of the rest of your life."

But the *scale* of change is also a tremendous force. The sheer number of people who are affected, and the amount of change that any industry or society goes through, is increasingly larger than those who were previously affected. Today, a startup social media service can reach 1 billion users or more in a matter of months. There weren't even a billion people on the planet at the turn of the 19th century.

Of course, we were warned. In 1970, the eerily prescient *Future Shock*[4] by Alvin Toffler and Adelaide Farrell captured public imagination around the world. The wife-and-husband team talked about change—rapid, disruptive, often tech-driven change affecting societies across the planet. They warned about "the death of permanence," the rise of the knowledge economy, fragmenting families and other human relationships, the stress of adapting to change, and the cognitive load of "information overchoice." They knew that the pace and scale of change would create seismic fractures in our societies.

Happily, Toffler and Farrell offered a variety of suggestions, such as schools teaching "learning how to learn," the need to re-establish trust in relationships, and a "suitable degree of futureness"—suggesting that we anticipate enough about the future so as not to be surprised, but not so far as to fall into wishful thinking or escapist fantasy. (Hence, the Next Rules.) Unhappily, we clearly didn't listen

to them. Our educational institutions don't explicitly teach us strategies for living in a constantly changing world, and other institutions, like organizations and governments, have not embraced the Next Rules to enable human-centered change.

The pace and scale of this kind of change deeply affect work markets. The difference between the skillset needed today and the skillset needed tomorrow, and the number of people who are affected, is increasing dramatically. A former coalmine worker hoping to switch to lucrative work like machine learning programming has a greater distance to go than, say, someone who once repaired mechanical car engines and now needs to learn about an electronic ignition system.

It is this impact of often tech-fueled change that has driven so much of the popular dialog about the future of work, and the ways our modern toolset contributes to the pace and scale of change.

## Looking Back at the Future of Work

Since the time of the early Greeks, people have assumed that automation would displace human work. Aristotle worried that if "the shuttle would weave and the plectrum touch the lyre without a hand to guide them, chief workmen would not want servants, nor masters slaves."[5] That's a pretty good description of a robot from a guy who lived 2,300 years ago.

For exactly the opposite prediction about the impact of technology, fast forward to the early 1900s, when the influential economist John Maynard Keynes wrote about *Economic Possibilities for Our Grandchildren*,[6] which is of course talking about you and me. Keynes maintained that within a hundred years, "the economic problem"[7] for mankind would have been solved.

> Thus for the first time since his creation man will be faced with his real, his permanent problem—how to use his freedom from pressing economic cares, how to occupy the leisure, which science and compound interest will have won for him, to live wise and agreeably and well.[8]

In other words, by now, you and I have so much money, we don't have to work, and we're crazy bored. Let me ask how that's working out for you.

In the decades after Keynes, many other innovators, economists, and even cartoonists weighed in, oscillating between predicting tech-fueled dystopia and utopia. MIT math professor Norbert Wiener, author of the 1949 book *Cybernetics*,[9] realized, after helping to design what we would now call robots for an auto assembly factory, that "the unemployment produced by such plans can only be disastrous."

Popular media, though, often took the utopian tack. Detroit-based artist Arthur Radebaugh in 1958 began penning the Sunday newspaper cartoon *Closer Than You Think*, predicting whizbang technologies such as electric cars, autonomous cars, hovercraft, wristwatch TVs, remote learning, electronic home libraries and computer desks, wall-sized TVs, home robots, and even electronic greeting cards (sent by microwave to the moon, of course). Soon after, the popular *Jetsons* prime-time TV cartoon treated viewers to a vision many today would have welcomed for the father's two-hour-a-week job and commute home by flying car.

Around this time, though, fears about automation began to rise again. In the early 1960s, a committee of concerned scientists warned then-President Johnson that "the cybernation revolution [would create] a separate nation of the poor, the unskilled, the jobless."[10] In speeches, Dr. Martin Luther King railed against "monstrous automation" as one of the nation's leading obstacles to African Americans achieving equal economic opportunity.[11]

Those fears were certainly born out in various sectors of the mid-20th-century workforce. According to the Bureau of Labor Statistics, in the US in 1950, over a million people worked in clothing factories,[12] making yarn and fabric, and producing everything from footwear to knitted sweaters. Nearly 1.5 million worked in the railway system. Over half a million worked in coal mining.

But by 2020, even though the US working population had more than doubled, each of these industries employed less than a tenth the former number of workers.

There is now no question that a significant amount of technology in the modern era has inevitably shifted to the automation of human tasks. An increasing number of innovative companies coming out of Silicon Valley and beyond have trained their sights on human work in a range of industries from media to financial services. These innovators typically look at the *tasks* that humans perform and look for ways to use software and robots to replicate those tasks.

Why? It's the reason that venture capitalists (VCs) invest in those companies. VCs want a startup to find something a customer is already paying for, and "10x it." That is, the automated approach must at least be one tenth the cost, or ten times more efficient, than when the human was doing it. Only by having such a significant gain in cost reduction, efficiency, or both, is a customer likely to use a new technology.

And humans are often costly. About two-thirds of the US and European economies are driven by services. That means people. Payroll can cost from 30 to 70 percent of a business. So it's a rational (though hardly human-centered) decision by leaders to attempt to reduce those costs. Startups are all too happy to oblige, and investors are more than happy to support them. And since much of the focus is on automating tasks, they can take inspiration from people like Henry Ford, who said, "Nothing is particularly hard if you divide it into small jobs."[13]

Look at the rise of what is known as robotic process automation software, or RPA, which rapidly "learns" how a repetitive human task is performed, then repeats the task automatically. The more tasks that are automated, the more a worker is "freed up" from having to do those tasks.

Of course, in most economies there is a word for someone who is 100 percent "freed up" from their work: "Unemployed." Not exactly what Mr. Keynes had in mind.

Though automation has clearly changed work throughout the ages, all of the talk about robots and software spiked deep concerns about what is often called technological unemployment. Because we've seen this playbook before, when we read headlines about robots and software taking jobs, we immediately assume the worst

impact on human work. But as Danish politician Karl Kristian Steincke wrote in 1948, "it is difficult to make predictions, especially about the future."[14]

## The Three Futures of Work

While I've frequently been accused of being a futurist, I'm really more of a "now-ist." I prefer to deconstruct the trends we see today and help people to see in terms of scenarios for tomorrow. So what are those bright red threads connecting to our near future, and how should we respond? Here are three possible scenarios.

### Future 1: Lots of Robots, Lots of Unemployment (Score: Robots 10, Humans 0)

Oscar Wilde wasn't the first to predict that machines would do much of the work of humans, but he was one of the most articulate. In 1891 in *The Soul of Man Under Socialism*,[15] he said that:

> all monotonous, dull labour… must be done by machinery… and just as trees grow while the country gentleman is asleep, so while Humanity will be amusing itself, or enjoying cultivated leisure which, and not labour, is the aim of man—or making beautiful things, or reading beautiful things, or simply contemplating the world with admiration and delight.

Like Keynes, though, Wilde didn't address how we would all pay the rent while the robots toiled.

In 2014, my wife and business partner Heidi Kleinmaus and I met author Martin Ford for lunch in Silicon Valley. He gave us an advance copy of his new book *Rise of the Robots*[16] and painted his own vision of technology-fueled unemployment. In the book, which he subtitled *Technology and the Threat of a Jobless Future*, Martin walked through the wide range of data points that show just how rapidly technology was changing the landscape of work. Since then, Martin's

work has become frequently associated with predicting what has become the "Jobpocalypse Scenario."

Martin found many who agreed with him. The same year, Microsoft co-founder Bill Gates was quoted by *Business Insider*[17] from a talk at the American Enterprise Institute:

> Technology over time will reduce demand for jobs, particularly at the lower end of skill set. Twenty years from now, labor demand for lots of skill sets will be substantially lower. I don't think people have that in their mental model.

In "This is the most dangerous time for our planet,"[18] a column for *The Guardian* in late 2016, physicist Stephen Hawking maintained that artificial intelligence software was potentially an existential threat to human work. And a 2017 study by the Gartner research firm projected that about 30 percent of the skills listed in the average 2017 job description would not be relevant by 2021.[19]

Concern spread. In February 2016, Rice University professor Moshe Vardi was quoted in the *Financial Times*[20] as saying:

> We are approaching the time when machines will be able to outperform humans at almost any task. Society needs to confront this question before it is upon us: if machines are capable of doing almost any work humans can do, what will humans do?[21]

In a 2019 debate with Alibaba founder Jack Ma at a conference in Shanghai, China, Tesla CEO Elon Musk was quoted by Bloomberg[22] as saying that AI will make jobs irrelevant.

But much of the data fueling modern concerns about a job apocalypse came from a 2013 report, *The Future of Employment*,[23] by Carl Benedikt Frey and Michael Osborne of the Oxford Martin Programme on Technology and Employment. Their team looked at *tasks* that were considered to be "automate-able" using existing technologies, added up all those tasks, and estimated that up to 47 million jobs *could* be lost to technology by 2050.

If you want to see the Oxford study in action, go to WillRobotsTakeMyJob.com, plug in a job title, and get depressed.

Forget the theories. The tech-fueled jobpocalypse has already occurred. It's called "the media industry." Starting with the rise of the Internet in 1995, over 200,000 jobs evaporated in the US over the next 25 years. (That's why I call myself "a recovering journalist." The magazine I helped to start in 1994, *Inter@ctive Week*, which we positioned as the Internet's first newspaper, quite literally and ironically documented the demise of its own industry.)

Obviously, Future 1 is the Scarcity Scenario. The size of the work pie shrinks, because our technology makes less work available to humans.

## Future 2: Lots of Employment, Assisted by Robots (Score: Robots 1, Humans 10)

The second future scenario is the exact opposite, which you might call the Abundance Scenario. In this possible tomorrow, our technologies help to create so much work that there simply aren't enough humans to do it. Or, even if a lot of work goes away, we all figure out how that won't matter, because we will have inclusive economies.

John Markoff, former *New York Times* reporter and author of *Machines of Loving Grace*,[24] wrote that he's not worried about robots taking our jobs, since our rapidly aging workforce will actually need robots to perform many of the tasks humans won't be able to do any more. And as Oscar Wilde wrote in *The Soul of Man*, "At present machinery competes with man. Under proper conditions machinery will serve man." (Hopefully, though, he didn't mean it like sci-fi writer Damon Knight's 1950 short story *To Serve Man*,[25] later a 1962 *Twilight Zone* episode.)

In his 2014 blog post, "This is probably a good time to say that I don't believe robots will eat all the jobs…,"[26] venture capitalist Marc Andreessen, whom I once interviewed when he was co-founder of the breakthrough Internet company Netscape, maintained that with widely available tools for production, things become cheaper to make instead of buy. The overall cost of a standard lifestyle drops precipitously, and though each of us makes less money, it costs less to live.

As Andreessen posited, suppose that:

> robots eat jobs in field X. What follows is that products get cheaper in field X, and the consumer standard of living increases in field X— necessarily. Based on that logic, arguing against robots eating jobs is equivalent to arguing that we punish consumers with unnecessarily higher prices. Indeed, had robots/machines not eaten many jobs in agriculture and industry already, we would have a far lower standard of living today.

A 2018 report by ZipRecruiter[27] determined that machine learning software had recently created three times as many jobs as it automated away. In early 2019, Byron Reese, CEO and publisher of technology research company Gigaom, published an article on Singularity Hub titled "AI will create millions more jobs than it will destroy. Here's how."[28] Reese maintained that innovators will begin to create technologies that will help power human skills to solve a range of new problems.

But nobody can guarantee, of course, that the jobs of the future will be *well-paid* jobs. A scan of the US Department of Labor's[29] top 12 highest-growth "jobs of the future" from 2019 to 2029 reads like a dystopian mirror image. On the high side are well-paid jobs like software developers and testers, operations managers, and medical health services managers, all of which pay a median of over $100,000 a year. But the vast majority of jobs are on the low side, jobs like home healthcare workers, fast food workers, restaurant cooks, medical assistants, warehouse laborers, and landscape workers—none of which pays over a median $30,000 a year, or about $15 an hour. And even some of the higher-paid jobs are being "gig-ified," turned into project- or hourly-based temporary work, which are far more susceptible to descending wages.

That leads us to…

*Future 3: Lots of Work, and Lots of Under- and Unemployment (Score: Robots 10, Some Humans 10, Most Humans 0 or 0.1)*

In this future scenario, there is both abundance and scarcity. How does *that* happen?

In her influential and prescient 1988 book *In the Age of the Smart Machine*,[30] author Shoshona Zuboff pointed to the likelihood that

FIGURE 0.2    The three futures of work
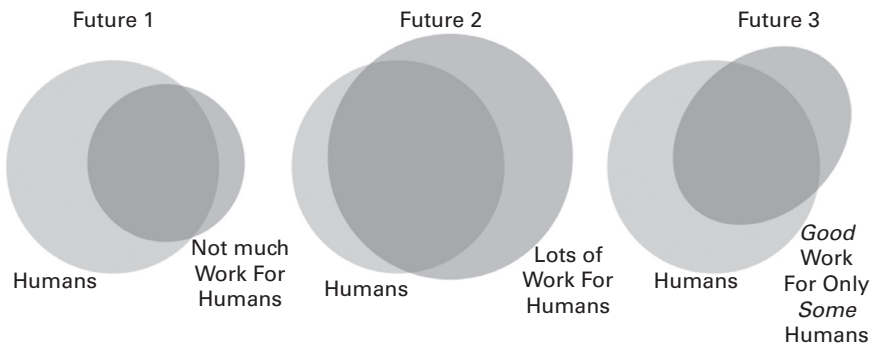
disruptive technologies would lead to both a jobs utopia *and* dystopia. Those who could navigate rapid changes in work would thrive. But those who could not adapt quickly enough would be left behind.

The publishing industry lost 200,000 jobs over 25 years, yet far more jobs were created in new media during that period. But you had to be able to make the leap.

In Future 3, many employers are still complaining that they can't hire enough of the in-demand skills like AI programmers. Multiply that workforce mismatch by millions, and you have a big problem for everyone—workers, employers, societies, and economies. The executive recruiting firm Korn Ferry estimated[31] that the lack of trained workers around the world could mean that by 2030 there would be a deficit of 85 million workers and $8.5 trillion in economic activity.

We already have many examples around the world of Future Scenario 3. Rural areas with shuttered factories and relocated companies already have a work mismatch. If rural unemployed workers would simply relocate to where the jobs are, they might find work. But cities are expensive, and if the work to be done requires significant retraining, workers are far less likely to move, or to go back to school for extensive retraining.

So how does this mismatch happen in the first place?

Robots and Software Don't Take Jobs—Humans Give Them Away

We will continue to see headlines about tech-fueled workforce mismatch like this for decades, because in many cases that mismatch isn't a "bug" of the system. It's a feature. Many work economies were built on the Old Rules of Work, when far less digital technology was available, and education and hiring systems weren't as strained. But those systems weren't designed for the kind of disruptive change we're seeing in the 21st century.

As a result, you will continue to see headlines about tech-fueled work mismatches for decades. So here is how you can develop your own informed opinion about the potential impact of automation on work. When researchers try to predict these future scenarios, they are actually trying to figure out four things.

- **Will tasks be automated, or will they just be "automate-able"?** Just because, say, 40 percent of tasks in a job or field *may* be automated, doesn't mean they *will* be automated, or *when* they will be automated, using existing technologies.

- **Whether the result may be a job loss or a skills mismatch.** Those are two very different things. Someone who hires may determine that they *don't* need an older skillset, and they *do* need a lot of next skills, but will maintain they can't find enough trained workers. Yet just because they don't think they need the current skillset doesn't mean they need to make a job go away, when the worker might be retrained. (Forget the label "upskilled." Yuck.)

- **If it's a skills mismatch, what is the *net impact* of automation on work—and when?** A jobless future depends heavily on there being no easily accessed work opportunities, which may simply be due to a lack of imagination and planning on our part. In fall 2016, the World Economic Forum suggested[32] a net loss of 5 million jobs in 15 economies around the globe by 2020, and in 2017 Forrester Research projected[33] that there would be a net loss of 6 percent of US jobs by 2021. That was within the range of a mild to a major recession, but not a jobless near future. And these projections were nowhere near the actual impact on jobs in many countries from the 2020 pandemic.

- **What goes away, tasks or jobs?** Even if 40 percent of all tasks in an industry absolutely *will* be automated, that doesn't mean that 40 percent of jobs will go away.

This last point is the most crucial, because *robots and software don't take jobs. Humans give them away.* Technology simply automates tasks. It's a human's decision if a job evaporates. And we can make different decisions.

In *A World Without Work*,[34] economist David Susskind suggests that a lot of work will indeed be automated, and that we'll all simply have to figure out how to take care of those people who are affected, such as a universal basic income, or perhaps something more needs-adjusted. And perhaps all those people who work can work less, so what little work is around can be done by more people.

We'll explore some of these strategies for societies and economies in the book's Conclusion. But for now, I'll emphatically state that *job loss by automation isn't a bug of the system*. Job loss doesn't happen because we've all missed something terribly obvious. Instead, it is *a design feature* of economies and societies that have not yet shifted to a model of inclusive work. No matter how much a fan you might be of Austrian economist Joseph Schumpeter's model of creative destruction,[35] and no matter how creatively a job is destroyed, it's still a lost job if the worker can't immediately find other similar-paying work.

To illustrate this, here is a thought experiment for you. I wave a magic wand and suddenly you are the CEO of a large corporation. (Perhaps you already are, and I've just wasted some magic.) Under pressure from your shareholders to reduce the costs of all those messy, expensive humans on your payroll, you buy technologies that allow your organization to automate 20 percent of all the tasks humans are currently performing. What are your rational choices?

- You could lay off 20 percent of your people. That's what American companies do, frequently.
- You could ask everyone in the company to take a 20 percent pay cut, temporarily, until the company rebounds. This is common in Germany and in the Nordic countries. And in some countries, it's mandated by law.

- You could offer every worker the opportunity to spend a day a week coming up with ideas for new products and features, to create new offerings for your customers, so your organization will expand its innovation portfolio. Google historically called this 20 percent time, and that's why we have services like Gmail and Google Apps, conceived of by "twenty-percenters" at the company.

- You could band together with other organizations and create software to help workers move from one company to another. That's what the country of Luxembourg did, in partnership with the consultancy PwC and the Australian software company Faethm, in an initiative called SkillsBridge.

- You could have made your organization a co-op in the first place, run by collective decision-making that would determine which inclusive strategies would be followed to avoid layoffs.

- Or, you could have been the kind of person who leads an organization that followed the Next Rules of Work, anticipated a large market shift before it happened, continually trained workers to develop new skills and to solve new problems, and never found yourself with a workforce mismatch in the first place.

Various societies have made different decisions about which of these outcomes are most preferable. The most important takeaway is that they *are* decisions that organizations, communities, and countries can make, in the face of disruptive change.

Though automation and globalization are undeniable and inexorable forces of change, it's also a false narrative to place the impact of the pace and scale of change solely on those shoulders. The International Labor Organization estimated[36] in early 2021 that nearly 9 percent of total working hours were lost in the modern pandemic, the equivalent of 225 million jobs lost worldwide. In the same period, Oxfam estimated[37] that the wealth of the 10 richest men in the world grew over half a trillion US dollars richer. So many people descended or remained in poverty that year that the global economy was projected to take at least a decade to make up for the loss, with none of the net impact due to robots or trade wars.

Workforce mismatches also occur regularly in various industries. According to the Department of Labor, about 5 percent of US workers are in the construction industry. Pre-pandemic in early 2020, there was already a significant workforce mismatch, with between 223,000 and 332,000 open positions, and 85 percent of construction companies said that the availability and cost of labor was their number one concern.[38] The need for trained workers with technical skills, and the fact that most construction jobs are onsite, often requires workers to relocate where the work is—something that many modern Americans are less willing to do.

If you care about tracking the health of any work economy, though, here's one piece of advice. Don't trust government unemployment statistics, which are usually mired in the Old Rules of Work.

If your heart rate is fine, but your other major organs are failing, would you judge your health solely by your pulse? That's what many countries do with unemployment statistics. Just because a worker ticks a box that says they're working a little doesn't mean they are "functionally employed," as the Ludwig Institute for Shared Economic Prosperity (LISEP) calls it. Unemployment statistics don't include the millions who can only find part-time work but want to work full-time or are making too little to pay the bills (underemployed), and all those long-term unemployed who are discouraged from looking for work.

At the end of 2020, LISEP calculated that, rather than the published US unemployment rate of 6.7 percent, the true rate of unemployment (TRU) was actually **over 25 percent**[39]—slightly higher than the peak unemployment rate in the Great Depression.

### The Fundamental Challenges Are Driven by the Pace and Scale of Change—and so Are the Opportunities

As we try to handicap the three possible futures of work, the relentless focus on a future tech-fueled jobpocalypse is a headline-fueled distraction from understanding the mechanics of work markets today. As Pulitzer Prize-winning author and commentator Thomas

Friedman wrote to me, "Who can possibly predict how many old jobs will disappear and new jobs will be born by 2050?"

Late in 2017, Susan Lund and James Manyika of McKinsey Global Institute published a study[40] that rightly pointed to the real culprits for a 21st-century workforce mismatch: the pace and scale of tech-fueled change. Due to the combination of prevailing wages, economic growth or contraction, shifting demographics, and the kinds of local industries, in one region a worker might not be displaced at all. But in another region a laid-off worker might have few easy alternatives for work, becoming long-term unemployed, or becoming underemployed in a lower-paying job.

> As Thomas Friedman asked me rhetorically, "Who can possibly predict how many old jobs will disappear and new jobs will be born by 2050?"

So let's stop worrying about how many jobs there may or may not be decades from now. The three futures of work aren't predictions. They're scenarios. Possibilities. Even probabilities. But one or the other will only happen due to the decisions we all make today.

Right now I think Future 3 is the most likely. But I want to convince you that we *all* need to work together to help make Future 2 a reality.

Honestly, I'm far from the perfect sherpa for this process. I admit that I'm a change junkie. I'm endlessly fascinated by a seemingly unlimited range of topics. People fascinate me. The world fascinates me. I love juggling a range of projects, an affinity that I suspect comes from an advanced case of adult attention deficit.

But there is an undeniable and significant human toll from the pace and scale of change. The tsunami of change doesn't just sweep up old technologies and jobs. Our human traditions and our values can become deeply impacted as well.

I am not suggesting that you and I conspire together to blow up the entire world of traditional work. I'm saying much of this shift is already happening, and we need to collaborate on four things:

1 We need to help every single human to thrive in a world of disruptive change. That has to begin with work, because most of us on the planet need to work to have enough money to live, and probably will for a long time.

2 We need to *throw out* the things about traditional work that are not good for many humans, like dehumanizing and unreliable work, toxic bosses, and eroding pay.

3 We need to *keep* the things about traditional work that are really good for humans, like ensuring stable income, providing meaning in our lives, reinforcing our self-worth, and generating wealth for the future.

4 We need to understand and change a work ecosystem that in many countries actually reinforces many of the things that aren't good for people, the society, and the planet. We need to co-create the changes to those financial and social systems so that an increasing number of people can benefit in a world of relentless uncertainty.

How hard can that be?

I cannot tell you that the pace and scale of change is ever going to slow down. It's hard to imagine our world shifting more rapidly than with the modern global pandemic. But I suspect we're going to look back and say that it was actually a fire drill for the coming waves of economic and societal change.

I believe that we will look back in future years to this time, and we will realize that now, today, here, is when the world of work went through a seismic shift. And the rules for success in that shift are being shaped as you read this.