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PURPOSE, HOPE, AND THE FUTURE OF WORK

BRYAN DIK, PH.D.

INSIDE THIS E-BOOK:

PREFACE

I finished writing this e-book early in 2020. At the time, the U.S. economy was chugging along and COVID-19 was an exotic illness that most of us were only loosely tracking as China began taking steps to slow its spread out of Wuhan. Who know that just a few short months later, we'd all be working from home, praying for flattened curves and quick rollout of much-needed ventilators, and wearing a mask while waiting in line to learn if toilet paper was finally back in stock? In what feels like the blink of an eye, our world has changed dramatically.

Most of the changes, we hope and expect, are temporary. We'll be back on campus sooner or later. Students will take online courses because they want to, not because it's their only option. We'll gather again for coffee and happy hour celebrations. Students will graduate not just on paper, but in person, wearing a cap and gown. When the scourge of COVID-19 abates, some things will return more or less to normal. Some things, of course, will not. My earnest hope is that your institution survives this crisis with some newfound efficiencies and a much higher comfort level with distance learning, but otherwise not much worse for the wear.

When we think about student career development on the other side of this crisis, how dramatically will our assumptions have changed? Students will always need to understand what makes them unique, and make decisions based on how their uniqueness fits opportunities and needs in the world. They will always need to learn how to run a job search, and prepare well for an interview. They will always hunger for a sense of purpose. And they will need to prepare for some unknowns in their careers. Some of the changes in our current world of work have been evolving for a long time, but are now doing so more rapidly than ever, like the three I highlight in this e-book. These changes—the growing gig economy, the ubiquitous proliferation of tech throughout the entire world of work, and an increase in automation—will undoubtedly be hastened by the COVID-19 crisis. Other changes may be new and unforeseen, perhaps unintended consequences or, more optimistically, new opportunities that arose from the ashes of the crisis. For example, what changes in healthcare policy will emerge during the next year, and how will that impact how the work is carried out? How will the decreased travel and increased teleconferencing change expectations and preferences for how work ought to be conducted post-COVID-19? How will our relationships with co-workers, and their expectations for each other and for us, change after we go weeks or months without seeing them face to face?

When you read this short e-book, reflect on the question of how the COVID-19 crisis will influence where we go from here. Ask yourself questions like:

- *How much faster will the changes described in these pages unfold?*
- *What other changes do I foresee that ought to be added for the most comprehensive picture of the future of work?*
- *How can the creative service narrative help students cultivate or express their sense of purpose while adapting to this changing reality—and how can I help with this?*
- *What will my own work look like in the future?*

The world is changing, and the creative service narrative we advocate at PathwayU is needed now more than ever. Stay safe and stay healthy. While you are hunkered down at home, read this e-book, and apply it to your corner of creation on campus. Apply it to your own life and work. Do so boldly, with courage. And be well.

Bryan J. Dik, PhD.

April, 2020

THE FUTURE OF WORK

Futurists forecast changes to the world of work that will make it extremely intimidating over the next two decades. Of course, the early signposts of some of these changes have already arrived: for most workers, change is inevitable and constant, employer loyalty feels like a quaint relic from a bygone era, and robots are supposedly coming for our jobs. How can a person cultivate a sense of purpose and joy in the midst of these new normals?

This e-book explores three dramatic changes that are afoot within the modern workforce: a new labor contract that trades security for flexibility, ubiquitous computing, and the rise of automation. The profound anxiety students experience in the face of these challenges arguably reflects a culturally-influenced materialist narrative that risks stripping workers of value and dignity. In response, establishing a new narrative for work, one rooted in creative service, offers hope for purposeful work in an age of deep uncertainty. The e-book ends with some take-homes for educators to consider in their work with students.

THE FUTURE IS NOW: THE WORK WORLD IS CHANGING

There was a time when people looking for work in countries like the United States could reasonably expect to find a job close to home and stay employed within a single organization for a long time. That employer would define their career path over the next few decades, then gift them a gold watch and pay a pension when they retired. An implicit sweat-for-security agreement formed the basis of this arrangement, with the employee promising a consistent effort in exchange for a stable job and a well-defined corporate ladder to climb. For reliable, hard-working blue-collar employees, this meant as long as their company was doing well financially, they could count on a future there. For white-collar employees, it meant a well-defined corporate ladder to climb. This was the era of the "company man."[1] Such jobs still exist, of course, but they are now the exception rather than the rule. A new kind of labor agreement has emerged, one in which people find themselves trading security for flexibility.

Around the same time the sweat-for-security agreement was commonplace, people also expected a familiar rhythm to their work. Most professionals could expect a short drive to an office where they would interact face-to-face every day with supervisors and co-workers. And most everyone could plan to clock in at 9 and clock out at 5 (for example), allowing them to "leave work at work" when they returned home. Today, empowered by (mostly) seamless videoconferencing technology, an increasing number of workers enjoy flexible schedules and work remotely. They work more hours than people did in the past, but they have more control over their schedules—although maybe not so much when conferencing in to a meeting at 2 a.m. with a team located on the other side of the globe. Major shifts in the way people communicate, shop, build relationships, and consume content have created major disruptions in the types of jobs that people believe are needed, as well as in the types of jobs that are *actually* needed. More tech jobs are available, sure. But the reality is that most every job is becoming a tech job, and every company is becoming a tech company.

The increasing influence of tech obviously has tremendous upside, with innovative new conveniences and efficiencies. Automation and artificial intelligence gives us digital administrative assistants to coordinate our schedules, digital accountants to balance our books, and soon, self-driving vehicles to deliver our goods and get us where we need to go. These are wins!—unless you're the human administrative assistant, accountant, or driver getting displaced. As robots become increasingly sophisticated, anxiety builds, and more and more people wonder how long it takes before they are displaced, too. To fan the flame, news outlets warn of a shockingly-near future in which huge swaths of the workforce are replaced by machines, ultimately leading to a world in which little human work will be needed at all. [2]

For better or worse, one major consequence of the accumulating change in today's work world is this: People bear more responsibility for managing their own careers than ever before. In some ways, this reality might be paralyzing; it puts a lot of pressure on students, because they cannot rely on a future employer to chart out a path for them to follow. But it also represents an important opportunity.

In pursuing our callings, we have the freedom to lean on our identities as creative service workers, while updating our skills and learning new, innovative ways to adapt to the changing work world. In doing so, we will learn ways to create opportunities that better align our gifts with needs in the world. Below, I lay out the new normals in today's world of work in some detail, then explore how educators and workers might effectively respond.
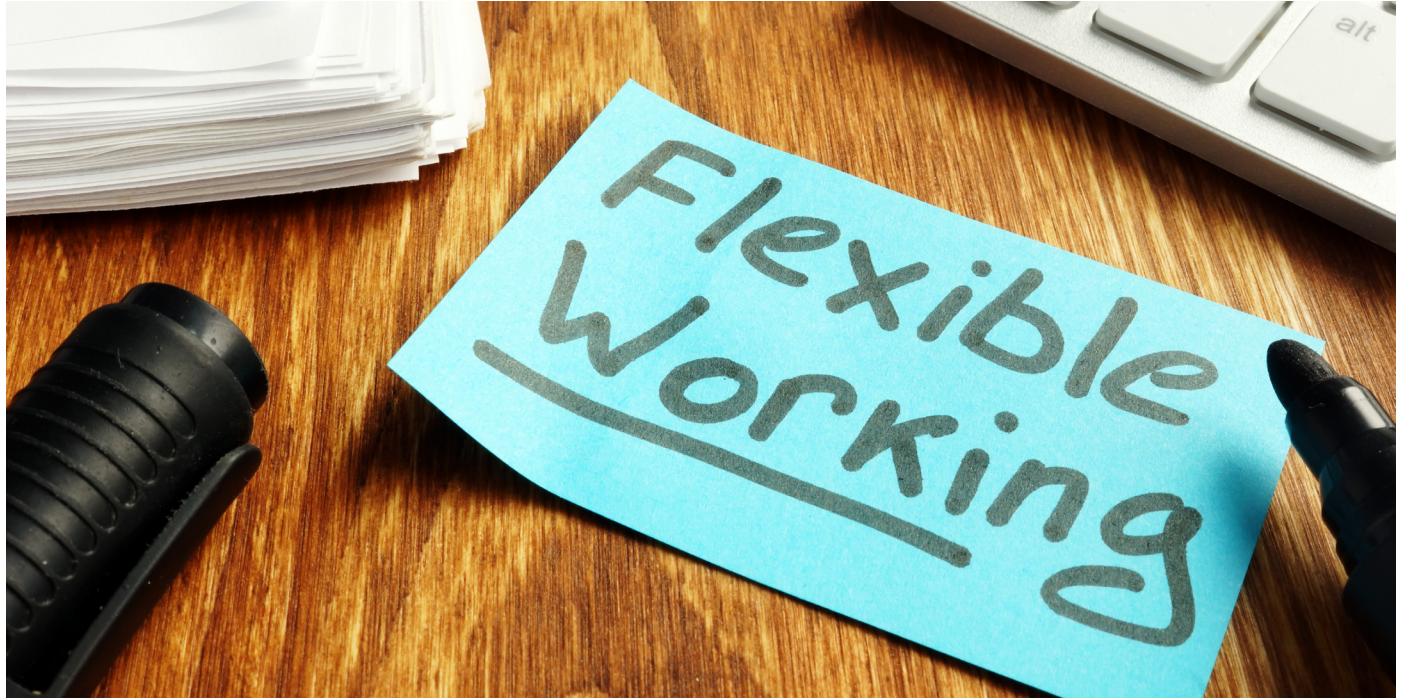
NEW NORMAL #1: TRADING SECURITY FOR FLEXIBILITY

Collectively, workers are giving up security for greater flexibility in proportions that are increasing by the day. "Flexibility" here means that people have more options than ever regarding when, where, and for whom their work is carried out. This stems from a dramatic rise in contingent work arrangements in which companies hire contractors for short-term projects rather than loyal employees to whom they commit for the long haul. For companies, hiring only when they need help, and cutting someone loose when a project ends, is appealing because it keeps their costs low. In response to this trend, more and more workers have embraced self-employment, signing up for two- to four-year "tours of duty" with employers, organized around specific projects.[3] Many people cobble together multiple ways to make a living, working as independent contractors, consultants, or freelancers. Some start a business. Others pursue temporary jobs (maybe through Upwork or TaskRabbit), drive for Uber or Lyft, or rent out a room through Airbnb. In fact, freelance work was projected to occupy 43% of the U.S. economy in 2020, up from 35% in 2017.[4] But while the gig economy offers people freedom and variety, it also leaves them vulnerable, with few benefits or perks (e.g., forget about health care or paid vacation time!) and no loyalty at all on the part of organizations (who, for their part, are also scrambling to find new ways to succeed).

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With more and more full-time jobs giving way to project-based contracts, the already crazy pace of job changes will only increase. According to the U.S. Bureau of Labor Statistics, the average U.S. worker holds 12 jobs before age 50. Most people probably assume that job-changing frequency is front-loaded in a typical career trajectory, more common among younger workers than for later-career adults. That is true; of jobs in the U.S. that workers started between ages 18 and 24, 69% lasted less than a year, and 93% lasted less than 5 years, revealing a breathtaking degree of job change. The pace of change slows as people age, but only a little. Of jobs that people started between ages 35 and 44, more than a third (36%) still lasted less than a year, and 75% ended in less than five years.[5] Frequent job change, already the name of the game for most workers, will likely shape your students' experience throughout the course of their careers.

NEW NORMAL #2: EVERY COMPANY IS A TECH COMPANY

Technology is rapidly becoming a fundamental part of virtually all jobs, not just the ones located in Silicon Valley. Signs of this transition are everywhere. Where there once were clipboards, now there are iPads. Paper billing feels inefficient and quaint; it can all be handled through an app. Brick-and-mortar retail stores and suburban shopping malls are falling further and further behind online retailers whose wares are available to buy anytime, in the palm of your hand. We've moved way past mainframes, end-user computing, and the novelty of a connected global network. Today, computing technology permeates almost everything, giving people unlimited electronic access to virtually anything they need, anytime from anywhere. The line between the physical and digital world is now so blurred it barely exists. According to organizational psychologists Wayne Cascio and Ramiro Montealegre, developers pushing those technologies are striving for "an optimized space that links people, computers, networks, and objects, thereby overcoming the limitations of both the physical world and the electronic space."[6]

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How does this impact how people experience their work? Here are some examples:

- If monitoring is part of your job, such as keeping track of temperature, humidity, light, sound, and even the locking of doors and the opening and closing of windows, this can all be handled remotely now.

- If you handle inventory, this can now be automatically monitored and refreshed on a rolling basis, introducing customers to additional items and services in real time.

- If your job involves driving, traffic data is increasingly used to set delivery routes and schedules, and your employer may be tracking your location, engine status, road conditions, and safe driving behavior in real time.

- Education and training are now available anytime thanks to online tutorials, whether through paid platforms like Lynda or free platforms like YouTube.

- Wearable technology embedded with chips and sensors (on wrists, on glasses, in clothing, and even implanted under the skin) is now a part of a growing number of work places. They gather information about stress levels, injuries, and other indicators of physical state and health status for purposes of effort monitoring, assisting in emergency situations, or facilitating preventative treatment.

These are just some of the ways that ubiquitous computing is changing how work is carried out. Whatever profession your students pursue, the ability to adapt to new and emerging technologies is increasingly a fundamental requirement for success—not just in "tech jobs," but in any job.

NEW NORMAL #3: THE ROBOTS ARE COMING FOR OUR JOBS!
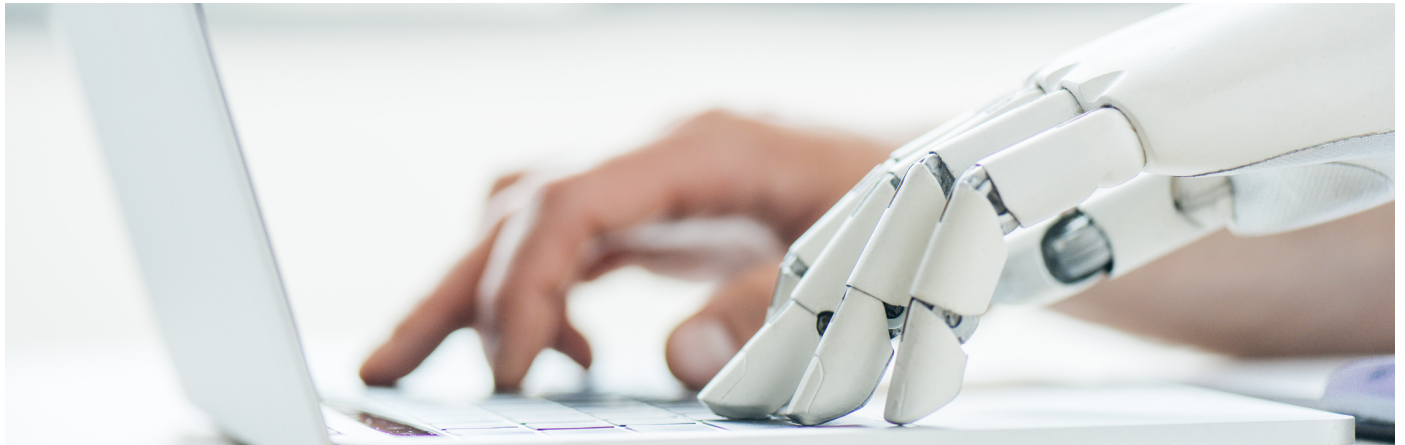
An HBO Vice Special Reports episode entitled "The Future of Work" opened with an autonomous truck navigating portions of I-10 near Tucson. Picture an 18-wheeler outfitted with numerous sensors, cameras, lasers, and a head-spinning amount of computing power, but otherwise identical to all the semis you pass each time you drive on the freeway. Because the technology is still in a testing phase, a human sat in the driver's seat, but that person quickly proved superfluous as the truck traveled its route flawlessly. The rig smoothly cut tight corners at intersections of city streets. It made perfectly-timed left turns through gaps in oncoming traffic. It merged from the entrance ramp onto the highway with skillful care. It calmly managed the weaving madness of rush-hour traffic. This wonder of technology is the creation of TuSimple, one of several companies hoping to increase safety, decrease transportation costs, and reduce carbon emissions by introducing fleets of self-driving trucks to the market. The stakes are high. Trucking is the most common occupation among American men, and in total, there are 3.5 million truck drivers in the U.S. alone. When truck stop restaurants, convenience stores, service stations, and other services connected to the industry are accounted for, nearly 8 million jobs hang in the balance.[9]

After the driverless truck footage, the show's host, Krishna Andavolu, interviewed a group of truckers hanging out at Omar's Hi-Way Chef Restaurant.[10]One of them was Don, a tattooed, bearded owner-operator of a trucking company. When asked what he loves about his job, he beamed. "Oh gosh," he said. "I love to drive! For me, it's a privilege. It's a privilege to get out there, get behind the wheel of 80,000 pounds, drive that thing down the road, knowing, hey, you know what? I can do this, and you can't do it." ("No, I can't," conceded Krishna.) Don continued: "And I know I'm providing the U.S.—I'm providing the world—with whatever I got in the back of my freight. I deliver your clothes, your food that you're eating. A lot of people don't see that! And it's a good feeling as a driver, as a human being." His voice was steady and assured, and his passion and sense of purpose was undeniable, even inspiring. The show interrupted the interview with shots of Don climbing into the autonomous truck, skeptical but curious. Then: "What would I do if I didn't drive? I can't honestly answer that 'cause I really don't know what I would do. I'd…I'd be scared."

Trucking is just one industry among many for which automation and artificial intelligence poses both a major opportunity and a major threat. Robots have worked in factories for decades, but the early robots were mostly enormous, expensive machines that performed only a single task, like riveting or welding. Today's robots are a different story. They are far cheaper, smaller and safer. They also are increasingly capable of making complex judgments, even learning to carry out new tasks on their own, in uncertain and changing situations. As a result, the types of jobs at risk of becoming obsolete due to automation are broadening in scope. An oft-cited Oxford University study estimated that 47% of U.S. jobs could be automated within the next decade or two.[11] The number is far worse for other countries; the same Oxford research group more recently predicted that with drones, wearable sensors, self-help kiosks, speech recognition, eye-tracking technology, 3D printers, and self-learning software, 69% of jobs in India and 77% in China are at risk of replacement.[12] There are already examples of what this might look like. For example, one 86,000 square foot factory in Japan (which, ironically, makes industrial robots) is staffed by just four people.[13] The threat of automation is not solely a problem for blue-collar workers, either. Staffing for corporate finance departments shrank by 40% between 2004 and 2015 as accounting tasks became progressively automated with robust software. In the past, it was blacksmiths and lamplighters, then elevator operators and telephone switchboard workers, then video store owners whose jobs became almost completely obsolete. Today, along with truck drivers, it is the likes of accounts-receivable clerks, bookkeepers, and inventory control workers whose days on the job seem numbered.

The last scene of "The Future of Work" returned to Don, after the near-future reality of driverless trucking had begun to sink in. He looked thoroughly beaten down, with red, puffy eyes. "It's going to happen," he admitted, with a sense of resignation. "Change is good. Some change ain't good, you know?" Don foresees widespread unemployment, outrage, people fighting to hang on to their jobs, and irrevocable harm to the industry, the economy, the country, the world. "What's gonna happen when you got the whole world pissed off?," he asked, rhetorically. "But me, I wanna die in a truck. I'm going to die in a truck, brother…That's when I retire is when I die in a truck. I mean, I've been doing it for too long. It's in the blood."

(For another, brief look on the increasing impact of automation on work--this one focusing on Canada--watch this CBC report.)

MORE THAN SURVIVAL

The challenges described above point to some unsettling uncertainties. Of course, it is worth noting that concern about drastic changes to work due to technological development is nothing new. A little more than 200 years ago, a group of textile workers in England—artisans who had spent years developing their skills—were confronted with automated looms and knitting frames that mechanized the task of weaving. Recognizing that their entire way of life was about to be undone, the most desperate of these weavers grabbed sledgehammers and began smashing the machines and setting fire to factories. They hoped their efforts would prompt the British government to ban weaving machines, but instead, machine-breaking was outlawed and made punishable by death, effectively crushing their rebellion. These workers were known as the Luddites, a term that eventually became synonymous with "technophobe."[14]

Fighting against the challenges we face in today's world of work will prove as fruitless for us today as it did for the Luddites in the early 19th century. A more effective strategy is to adapt to these changes—and not only to adapt, but to shape their direction in life-giving ways. But how do we accomplish this, and equip our students to do the same?

How would you answer this question?

Vocational psychologists point to two approaches people can take to successfully navigate the changing world of work: career adaptability and planned happenstance.

BUILD CAREER ADAPTABILITY

A key path toward thriving in the changing world of work is to develop career adaptability, which refers to people's readiness and resources for coping with "tasks, transitions, and traumas"[15]in their careers. Some transitions people face are ones they expect, like finding employment after finishing a degree. Others, like getting laid off, may feel like they come out of nowhere. Nearly all transitions, whether good or bad, are stressful, and require adaptability to manage successfully. Across 90 studies, research reveals that people's career adaptability is linked to numerous beneficial outcomes, including a strong career identity, a sense of calling, reduced job stress, enhanced employability and promotability, and increased engagement, job performance, job and life satisfaction, and positive emotions.[16]Adapting within one's career journey, in other words, bears fruit.[17]

Four types of psychological resources assist in building career adaptability: concern, control, curiosity, and confidence. The most important aspect of career adaptability is *concern*, or the motivation to prepare for future possibilities. Career concern flows out of a future orientation—a sense that to be successful in the future, it helps to prepare now. Concern includes an optimistic attitude of planfulness, one that drives a person to learn more about what they'll likely face both in the near-term and the distant future. Career concern is fostered by looking back and realizing that where a person is now is a product of past experiences— experiences that person can build on to prepare for a future where they can express your gifts in new ways. In a world of work defined by constant change, anticipating that change and developing an attitude of preparedness will position students well to manage it when it arrives.

A second component of adaptability is *control* over one's future career. Control in this sense means self-discipline—that is, taking an organized, deliberate, decisive approach to making choices and managing transitions.

Having control means recognizing that a person is not merely a passive recipient of external forces in the world of work, but rather, all of us are active shapers of our career trajectories. The opposite of this type of control is confusion, impulsivity, or avoidance. One of the paradoxical advantages of the new "trading security for flexibility" labor contract is that a person can no longer rely on a stable employer to map out a career path. Instead, we are in the driver's seat of our own career development. We would be doing students a service by helping them understand they have the latitude to proactively make their own decisions, rather than wait for external structures in the world of work to determine the direction of their path.

A third dimension of career adaptability, *curiosity*, emerges from a sense of control. Curiosity involves taking the initiative to figure out new ways to translate one's skills into opportunities. It requires inquisitiveness—an eagerness to explore—and transforms a person from naïve to knowledgeable. Curiosity builds on a willingness to mentally project oneself into new roles, imagining what they would be like and identifying what is needed for success. Doing this, over time, fosters new skills, greater self-awareness, and a clearer understanding of new ways to work. The broader the array of information that results from one's curiosity, the more informed a person's choices can be. Avoid offering (or participating in) narrow job training programs that focus solely on skills that will prove obsolete in a decade, while overlooking a broader approach to ongoing skill development. Job skills are critical, but even more critical is "learning how to learn," a skill that can help a person adapt as needs in the world change and as new technologies are introduced. Helping students lean into their curiosity will spur on personal growth, promote their ability to roll with change, and help them thoughtfully harness new technologies and new ways of working as they live out their callings.

Finally, career adaptability requires *confidence*. People have confidence when they look ahead and see themselves encountering but overcoming barriers in their careers. Confidence means feeling assured they will do what it takes to live out their callings in the world of work, despite knowing it won't always be easy. Some of the barriers students may confront are internal, like self-doubt. Others are external, like those rooted in inequities based on social class, gender, or race, which limit access to valuable opportunities. These barriers are enormously challenging, but confidence grows when a person believes they are surmountable.[18] A lack of confidence leaves a person unwilling to take risks, preferring to avoid failure by not trying. That strategy offers short-term anxiety relief but thwarts progress toward longer-term goals. Instead, engaging in active problem-solving and leaning on support systems will help students grow the confidence they need.

USE PLANNED HAPPENSTANCE

Having a planful approach for the future is important, but how does a student pair this with the reality that most people, when asked how they got to where they are today, attribute at least some of their success to events that seem completely outside their control? Unexpected twists and turns are common. One study found nearly two-thirds of older adults identified a serendipitous, seemingly random event that influenced their career trajectory in a nontrivial way.[19]

Vocational psychologists have studied these supposedly random events and tend to view them as not random at all. Instead, they call this phenomenon *planned happenstance*. Planned happenstance starts with the idea that it's important to live an active life—trying new things, introducing one's self to new people, learning about them, listening to them, and sharing one's plans and passions with them. The more students do these kinds of things, the more likely it becomes that one of these interactions will introduce a legitimate opportunity that opens new pathways for living their calling. The key in leveraging planned happenstance is not merely to identify, evaluate, and pursue unexpected opportunities when they come up, although doing so is important. Rather, the key is to *create* those opportunities. The more actively a person engages life, the more of these opportunities that person will encounter. The point is to live boldly, with vigor and without fear, constantly trying new things and "putting yourself out there." Do these things, and then expect the unexpected.

What does it look like, practically, to live out a calling using career adaptability and planned happenstance? Consider Alissa. She is a professor at The King's College in New York City, teaching writing, criticism, and cultural theory. She also serves as a staff writer for Vox. Before Vox, she was chief film critic at *Christianity Today*, and spent a decade writing on pop culture and art for outlets like *Rolling Stone* and *The Atlantic*. She is regarded as "one of the most prolific, eloquent, and creative culture critics working today."[20] How did she get there?

"I don't think I ever really did make a conscious choice," she told *Forma*.[21] "It was just a natural extension of my everyday life to pitch reviews to editors for movies I was going to see anyway…I was good enough at writing that people kept asking me to do it, and if you stick around long enough and have a knack for it, the work starts to snowball. But there was no moment where I sat down and said, 'I would like to become a critic, and here are the steps I will follow to do that.' I know people who have done that, but it wouldn't have worked for me. I didn't set out to become a teacher. But like most people with a master's degree, I needed to earn a little money on the side and started adjuncting[22], teaching first-year English composition classes. That turned into a full faculty position teaching the same subject for a few years. But I'd landed at a college that was growing its program in media, culture, and the arts, and when they asked me to teach courses on cultural theory and criticism as well, I could hardly refuse.

"In general, though, for the first seven or eight years of my career, I just pitched articles haphazardly as they occurred to me, and whenever someone offered me work doing something—whether or not I thought I was fully qualified for it at the time—I said yes, and figured out how to do it afterwards. That's led to criticism and teaching. But it wasn't a path I set out on, nor do I really think I would have thought of it as a career path until recently."

Alissa describes her career as more of a gradual unfolding than the result of careful planning. Career experts would urge a more goal-oriented strategy, yet Alissa's experience nevertheless reveals a process of ongoing adaptation. While growing up, she read books incessantly, and was a classically trained pianist by the time she entered adulthood. Both of these helped prepare her for concentrating deeply on art for long periods of time. But pitching editors, writing engaging reviews, and developing effective learning experiences for students—these were skills Alissa developed in response to opportunities she saw in front of her, and opportunities she created. All of these tasks align with her interests and abilities, and all of them support her mission of engaging in the work of translation—that is, "figuring out how to express things in terms that people who might not think those things are 'for them' can understand," as she described to me.

In their own career paths, students can cultivate their ability to adapt to a constantly changing world of work. Using planned happenstance can create new opportunities. When a promising opportunity emerges, even one they might never have imagined before, urge them to evaluate how well it fits who they are—their interests, values, personality, abilities, and workplace preferences. Students can gain clarity on these aspects of themselves using the reliable and valid instruments within PathwayU, a scientifically supported, user-friendly online career assessment system. Encourage students to carefully consider the following questions:

> *Does this opportunity fit my gifts well?*
> *Do my current circumstances allow for it?*
> *Have I discussed the possibility with important people in my life?*
> *Can I envision expressing my gifts through this path in ways that make the world better?*

If a student's answer to questions like these is "yes," encourage the student to jump on the opportunity with confidence.

HOPE IN THE FACE OF UNCERTAINTY: A MODEST PROPOSAL

Career adaptability and planned happenstance are helpful strategies to help students forge a path in a changing world of work, but let's take a step back for a moment. The three challenges reviewed in this e-book—the new labor contract that trades security for flexibility, every company becoming a tech company, and the rise of robots and artificial intelligence—evoke profound levels of fear for many workers today. They introduce uncertainties that call into question our ingrained assumption that if we are reasonably capable and work hard, we'll be rewarded with a vibrant career. What if that is not the case? If we can't count on a stable work future, what can we count on? Economists Kevin Brown and Steven McMullen suggest the anxiety we experience in response to this question reflects a culturally-influenced "materialist narrative" in which humans are trying to survive in a competitive environment, and our worth is determined by our hard work and the rewards we reap (e.g., money, privilege, and power) from the market.[23] This is a bleak view, one in which our personal value is defined by our economic value. If this materialist narrative reflected reality, we are right to be anxious about disloyal employers, rampant job change, technological transformation, and eager robots looking to replace us. Any of these things can rob us of our value, and their combination may strip us of value entirely.

However, Brown and McMullen also point out what the materialist narrative misses. All of us want to survive, sure, but our value is not defined by what we produce or consume. We are relational beings with moral compasses. We strive to meet our own needs, sure, but we also care about others. We express empathy and show compassion. We build communities. We also create, design, invent, produce, transform. This is a different narrative—a narrative that conceives of people in terms of the creative service they offer the world.

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As a steward of your potential for creative service, you can manage the changing world of work with confidence rather than anxiety. So can your students. We can all rest assured that our callings within our various life roles, including our work, are not threatened by robots, artificial intelligence, or any other entity poorly equipped to deliver on a creative service identity. To say this does not deny the very real challenges posed by technological change. Indeed, new technologies will have severe consequences in the labor market, although not quite in the way some doomsday prophets predict. Economists have identified a broad pattern in which historically, new technologies tend to augment the efforts of highly skilled workers, while replacing those in low-skilled jobs. To be sure, some workers in some types of jobs will see many of their duties off-loaded to machines. Take farming. In 1900, forty percent of American workers were employed on farms; today, less than two percent are. But while widespread displacement will occur in some jobs, this does not mean that there will be fewer and fewer jobs to go around within the economy as a whole. In fact, in all of history, new technologies have never resulted in a net decrease in the number of available jobs. Instead, automation shifts where work is needed.

Consider two examples. First, a Deloitte study of 140 years of census data in England and Wales found that technological development simultaneously caused a reduction in agriculture and manufacturing jobs and a (larger) increase in service jobs. The reason? Automation helped produce food and manufactured goods much more cheaply, resulting in lower prices. That gave families extra spending cash, which meant they could afford services they previously considered a luxury. Due to the increased demand, jobs in services like accounting, bartending, and hairdressing grew.[24] Second, economist James Bessen has shown how ATMs—those vending machines that give you cash—counterintuitively caused substantial growth in the number of bank tellers in the U.S.[25] How? ATMs replaced the routine cash-handling tasks that tellers had previously done, and the number of tellers per branch fell. But ATMs also made it cheaper for banks to open new branches, so they opened a lot more of them. Furthermore, the job of bank telling quickly transformed. Tellers began functioning less like checkout clerks and more like salespeople, responsible for building relationships, solving problems, and introducing customers to new products like loans and investments. Automating some bank teller tasks didn't eliminate the rest of the job. To the contrary, it elevated it. Check out this [TEDx talk by David Autor](#) for more on this.

These examples suggest that the robots may not be coming for our jobs after all, or at least when they do, they will create more jobs than they replace. Plenty of other evidence supports this assertion. At the time I write this, productivity gains across the economy are historically low, as is the U.S. unemployment rate. Companies are investing far less in automation than is popularly assumed, and many employers are struggling with labor shortages instead of labor surpluses. None of these facts support the "robots are coming for our jobs" storyline.[26] Of course, we don't know what the future holds. Maybe automation will eventually create widespread unemployment. But rest assured: All the key indicators suggest it's extremely unlikely to happen anytime soon, and in fact, it's hard to see how we'd get there from here.

The Deloitte study and bank teller examples are promising for another reason though, especially from the perspective of the creative service narrative. All legitimate work is a form of service, but not all work is equally meaningful. When mind-numbingly repetitive tasks are automated, workers have more opportunity for creativity, collaboration, and service. In other words, they can more readily express the life-giving aspects of being uniquely human, deliverers of creative service. Still, while such changes to work will be positive for many workers, for some in low-skill jobs—especially in manufacturing, food service, and construction, held by a disproportionate number of men, people of color, and young workers[27]—the offloading of tasks to technology may be total rather than piecemeal. Developing new skills will be essential for such workers, but those low in career adaptability, or who lack sufficient access to education and training, will be vulnerable.

These competing realities point to a critical opportunity. In the face of anxiety, uncertainty, and inequality driven by the materialist narrative, we can demonstrate an approach to career development guided by a creative service narrative. We can strive to help all workers, those employed across all sectors of the economy as well as the unemployed, find our worth in places other than merely our economic value. We can model how our work reflects a calling to creative and redemptive service, and assist in helping others explore how their gifts equip them for creative service as well. Imagine supporting existing efforts to address students' post-graduation employment needs by hosting networking events, job search workshops, mentoring programs, career assessment and counseling workshops—all part of a well-designed career development program. At their best, such efforts do more than prepare students to enter a difficult world of work. They invite students to orient their lives in ways that offer benefit to them, their families, and their communities.

Efforts within educational institutions of all kinds can also promote a creative service narrative in the face of existential threats in today's world of work. Supporting the development of students' adaptability resources before they enter the world of work is key. A creative service focus also means urging graduating students to pursue opportunities that offer ongoing skill development. Many students will grow into leadership roles; encourage these students to consider how they can cultivate workplaces that embody the creative service narrative. Leaders can offer employees livable wages and good benefits, but a creative service focus also includes investing in ongoing skill development. Within the world of work, continuous retraining can grow employees' career adaptability, and also help ensure that new technologies enhance their work rather than endanger their livelihood. Should lay-offs ever be necessary, employees would leave with more useful skills than they started with. Some may grow out of their current roles and move on to new opportunities with other employers, or choose to capitalize on the gig economy by working for themselves—these outcomes should be celebrated, not discouraged. Co-workers can generously engage in information sharing, collaboration and encouragement, supporting the ongoing skill development of others and affirming their identities as image-bearers. Expressing your own gifts for creative and redemptive service while encouraging those around you to do the same, for the well-being of the whole, offers a positive path forward toward a flourishing community.

Finally, supporting public policy efforts that reflect the creative service narrative offers another path toward life-giving impact.[28]Initiating policies that recognize and support the inherent dignity and worth of people lies at the center of such efforts. Investing in education, not just among youth but for midcareer adults as well, will be increasingly important in a future with rapid technological change. Assistance with worker transitions, support for starting small businesses, and development (and evaluation) of programs that succeed in preventing temporary unemployment from resulting in hopelessness and poverty can help keep technological disruption from causing permanent inequality—and do so without discouraging competition and innovation. Measures like these support the broader goal of engaging people in creative and redemptive service that promotes the common good. In a time of looming career disruption, we can help lead the way by embracing our own creative service identity, and helping our students do the same.

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[1] *If this term seems sexist, it's because it is. Sexism remains a major problem in the workplace now, but it was practically embraced as the norm in this era.*

[2] *Derek Thompson, "A World without Work" The Atlantic (2015), https://www.theatlantic.com/magazine/archive/2015/07/world-without-work/395294/; Andy Beckett, "Post-work: The Radical Idea of a World Without Jobs," The Guardian (2018): https://www.theguardian.com/news/2018/jan/19/post-work-the-radical-idea-of-a-world-without-jobs*

[3] *Reid Hoffman, Ben Casnocha, and Chris Yeh, "Tours of Duty: The New Employer-Employee Compact." Harvard Business Review 91 (2013): 49-58.*

[4] *https://www.forbes.com/sites/shephyken/2018/07/29/the-gig-economy-opens-the-door-for-employment-opportunities/#66f7d1837662*

[5] *Dick Bolles pointed out this trend in Parachute (p. 4); I've updated it here to reflect the latest Bureau of Labor Statistics data. https://www.bls.gov/news.release/nlsoy.t02.htm*

[6] *Wayne Cascio and Ramiro Montealegre, "How Technology is Changing Work and Organizations," Annual Reviews of Organizational Psychology and Organizational Behavior 3 (2016): 355 (349-375).*

[7] *https://www.npr.org/2018/10/22/658808705/thousands-of-swedes-are-inserting-microchips-under-their-skin*

[8] *Vice Special Reports, "The Future of Work." HBO, April 20, 2019.*

[9] *https://www.trucking.org/News_and_Information_Reports_Industry_Data.aspx*

[10] *Omar's is a diner located inside the Triple T (i.e., Tucson Truck Terminal). It is the Home of the Deep Dish Hot Apple Pie (http://www.omarshiwaychef.com/).*

11 *Carl B. Frey and Michal A. Osborne, "The Future of Employment: How Susceptible are Jobs to Computerisation?" Technological Forecasting and Social Change 114 (2017): 254-280.*

12 *Carl B. Frey, Michael A. Osborne, Craig Holmes, Ebrahim Rahbari, Robert Garlick, George Friedlander, Graeme McDonald, Elizabeth Curmi, Johanna Chua, Peter Chalif, and Martin Wilkie, "Technology at Work v2. 0: The Future is Not What it Used to Be," Citi GPS:Global Perspectives and Solutions (2016).*

13 *Cascio and Montealegre, "How Technology is Changing Work and Organizations."*

14 *https://www.history.com/news/who-were-the-luddites*

15 *Mark L. Savickas and Erik J. Porfeli, "Career Adapt-Abilities Scale: Construction, Reliability, and Measurement," Journal of Vocational Behavior 80 (2012): 662 (661-673).*

16 *Yet another meta-analysis: Cort W. Rudolph, Kristi N. Lavigne, and Hannes Zacher, "Career Adaptability: A Meta-Analysis of Relationships with Measures of Adaptivity, Adapting Responses, and Adaptation Results," Journal of Vocational Behavior 98 (2017): 17-34.*

17 *We have to be careful here, given that correlation does not equal causation. Most of the studies in Rudolph et al.'s meta-analysis are correlational, from which causal inferences cannot be made. It is of course possible that beneficial career development status boosts career adaptability, rather than (or in addition to) the reverse. Third variables, such as well-being, maturity, intellectual ability, or social support may also promote both career adaptability and beneficial career development simultaneously. But evidence from experimental designs (e.g., Melanie Ohme and Hannes Zacher, "Job Performance Ratings: The Relative Importance of Mental Ability, Conscientiousness, and Career Adaptability," Journal of Vocational Behavior 87 [2015]:161-170) and longitudinal designs in which people are followed over time (e.g., Hannes Zacher, "Individual Difference Predictors of Change in Career Adaptability Over Time," Journal of Vocational Behavior, 84 [2014]: 188-198) lend support for the conclusion that career adaptability leads to positive outcomes, so I feel confident in making the causal inference here.*

18 *To be clear, these kinds of structural barriers are a result of sin, and need to be eradicated. My goal here is not to simply accept these barriers with a shrug, but rather to acknowledge their reality and assist individuals in forging a path despite them, even while also working to undo them.*

19 *Deborah G. Betsworth and Jo-Ida C. Hansen, "The Categorization of Serendipitous Career Development Events," Journal of Career Assessment 4 (1996): 91-98.*

20 *David Kern, "Leaning to Look: Alyssa Wilkinson on Eliminating Ego, Setting Aside Taste, and Pushing Past the Obvious," FORMA 6 (2017): 9-11."*

21 *Kern, "Learning to Look."*

22 *This is academic-speak for serving as an adjunct faculty member, an arrangement in which a university instructor is paid on a per-course basis.*

23 *Kevin Brown and Steven McMullen, "How to Find Hope in the Humanless Economy, "Christianity Today 61 (2017): https://www.christianitytoday.com/ct/2017/july-august/how-to-have-hope-in-humanless-economy.html*

24 *Ian Stewart, Debapratim De, and Alex Cole, Technology and People: The Great Job-Creating Machine. (London: Deloitte, 2015).*

25 *James E. Bessen, "How Computer Automation Affects Occupations: Technology, Jobs, and Skills," Boston Univ. School of Law, Law and Economics Research Paper (2016): 15-49.*

26 *James Surowiecki, "Chill: Robots Won't Take All Our Jobs." Wired 25 (2017), https://www.wired.com/2017/08/robots-will-not-take-your-job/*

27 *Tom Simonite, "Robots Will Take Jobs from Men, the Young, and Minorities," Wired 27 (2019): https://www.wired.com/story/robots-will-take-jobs-from-men-young-minorities/*

28 *These ideas are elegantly suggested by Steven McMullen in his excellent essay, "A World Without Work? If Work is Service, the Opportunities to Work are Infinite." Comment Magazine (2016): https://www.cardus.ca/comment/article/a-world-without-work/*