# The Changing Nature of Work in the Creative Age

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The Catholic tradition has long held that work is not simply punishment for the disobedience of Adam and Eve in the Garden of Eden, but it is the human person's opportunity "to employ and develop by means of labor the gifts received from God."[1] Or, as the call for papers for this conference notes, in the Catholic tradition, work is seen as our participating in the creative power of God and "the place for growth as a human being." Clearly, our thinking about work from a theological point of view has evolved over the last 100 or 500 years. And the orientation of this conference is an understanding of the *future* of work. It is to the possibilities of the future of work, and the implications that future has for how we might think about work that I want to address.

Some background. I have 29-years of experience as a consultant and as a full-time Associate at W. L. Gore & Associates—a well-regarded for-profit company with a reputation for outstanding innovative products like its GORE-TEX® outerwear. Now I am a professor of management in a business school, with a focus on what I call "high performing organizational cultures" where both the organization and the individuals who work in it thrive. So the thoughts I

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[1] St. Pius the X, *Prayer to St. Joseph the Worker,* http://www.olrl.org/pray/joseph_workman.shtml (09.26.2017)

have to offer here come from the perspective, not of a theologian or a professor of philosophy, but that of an organizational practitioner and scholar of organizations.

What I have to offer in this paper are various scenarios on the future of work, given current developments.  My hope is that these possibilities, grounded in real world experience, may help enrich the theological and philosophical conversation about work. My argument develops as follows. First, technology will continue to change how work is done in organizations. The impact of that change will be funneled in two different trajectories of organizational structures and processes. The dominant organizational type is the current "traditional, hierarchical, bureaucratic" model with its relentless focus on efficiency for the purpose of maximizing shareholder value. The second emerging organizational type has various names—the networked organization, the flat organization, the creative organization. I will call it, as we did at Gore, the "lattice organization." In this organizational model, the value-generating principle isn't efficiency per se, but delivering high value, innovative, quality, and customer-tailored products and services. Depending on which "future organization" one works for, the nature of work—its challenges and its promises—will be very different. Second, cutting across these two different types of organizations will be two different managerial approaches—outgrowth of Douglas McGregor's Theory X and Theory Y approaches[2]—what might be called the "Nice Theory X" approach, and the "Human Flourishing" approach. Third, these two different managerial approaches in these two different organizational types will be based on different fundamental organizational principles and practices and will call for, or elicit, different "virtues" in the people who work in them.  Here I will offer some experiences from my time at W. L. Gore & Associates—a flat lattice organization with a "human flourishing" approach.

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[2] Douglas McGregor, *The Human Side of Enterprise,* McGraw Hill: New York 1960.

Finally, I will speak to how all of the changes coming will largely challenge our notion of professional work.

**The effect of future technology on work and organizational structure**

There are two main technology trends identified as potential disruptors of organizations as we now know them: robots and Artificial Intelligence (AI). Robots are becoming increasingly sophisticated. Most "robots" in today's industrial organizations are like the arms and levers in an automobile manufacturing plant that just repeat the same operation over and over. The robots of the future will have more digital capacity to sense the environment, and make adjustments to the actions they take, based on pre-programmed alternative rules. For example, there are now "robot lawnmowers" that can be programmed to cut grass within a specified area, to stop and back-up if they are about to hit something, and to return to a charging base if they are needing their electric battery recharged. The big impact of robots is the potential for them to radically replace human labor in many manufacturing and service settings. Indeed, there are some who speculate that robots will mean the "end of jobs" and that some form of a universal basic income will need to be given to all people because there won't be enough jobs requiring human effort to go around. Truck drivers, burger flippers, cashiers, administrative assistants, manufacturing and production workers—and many others could all see their jobs "disappear." The question doesn't appear to be if it's possible, but rather when.[3]

Frey and Osborne estimated the probability that a particular job could be computerized.[4]

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[3] Barb DARROW, *Automation, robots, and job losses could make universal income a reality,* http://fortune.com/2017/05/24/automation-job-loss-universal-income/(*26.09.2017*)

[4] Carl Benedikt FREY—Michael A. OSBORNE, *The future of employment: how susceptible are jobs to computerization?* http://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf *(26.09.2017)*

Of a list of 702 jobs, from recreational therapists---least likely to be computerized out of existence—to telemarketers—most likely to be computerized out of existence, 403 of the 702 job types had more than a 50% chance of being "at risk." They estimate that 47% of jobs in the American workforce will be "at risk" within the next two decades. (The present audience might be interested to know that the chance of "clergy" being computerized is less than 1%.)

At the same time as people employed in these more traditionally manual or at least non-professional jobs will be replaced by robots, Artificial Intelligence will transform if not eliminate many professional jobs. One of the commonly held essentials of professional work is that it involves thinking and more specifically judgment. What AI is demonstrating is that massive computing power (which is now more readily available) can make very fine-grained predictions"based on huge quantities of data. When Deep Blue, the IBM computer, beat Garry Kasparov in 1997, it did so because it was making predictions and Kasparov was making judgments. "The computer was able to calculate up to 330 million moves per second whereas Kasparov — at best — could consider about 100 moves per go."[5]

Think about the law. We know that many legal forms can be downloaded from the internet at much less cost than seeing a lawyer. And now there's this: "A 19-year-old British programmer launched a bot last September which is successfully helping people to appeal their parking ticket. It is an 'AI lawyer' who can sort out what to do with the received parking ticket based on a few questions. Up until June, the bot successfully appealed between 160,000 of 250,000 parking tickets in both London and New York, giving it a 64% success rate."[6]

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[5] Claire SCOBIE, Artificial Intelligence and the future of the professions.
https://www.acuitymag.com/finance/artificial-intelligence-and-the-future-of-the-professions(26.09.2017)

[6] Danielle MUOIO, *A 19-year-old created a free robot lawyer that has beaten 160,000 parking tickets,*.
http://www.businessinsider.com/joshua-browder-bot-overturns-160000-parking-tickets-2016-6 *(26.09.2017)*

Now think about medicine. Here's a report: "IBM Watson launched its special program for oncologists– and I interviewed one of the professors working with it–which is able to provide clinicians evidence-based treatment options. Watson for Oncology has an advanced ability to analyze the meaning and context of structured and unstructured data in clinical notes and reports that may be critical to selecting a treatment pathway. Then by combining attributes from the patient's file with clinical expertise, external research, and data, the program identifies potential treatment plans for a patient."[7] Now, would you prefer a treatment plan based on zillions of bits of data crunched rapidly by Watson predicted to be most effective, or by the judgment of your doc who's seen maybe only as many as 100 similar cases in her entire career?

Both of these technology changes will differentially impact the two main organizational models: the dominant paradigm of management— the traditional hierarchical bureaucracy—with its focus on efficiency achieved through division of labor, specialization, command-and-control top-down authority structure, and the emerging model of the lattice organization where the value-generating principle is delivering high value, innovative, quality, and customer-tailored products and services in a context of collaboration, adaptiveness, and distributed leadership.

The first of these paradigms— the traditional hierarchical bureaucracy--shouldn't be too quickly savaged. Its capacity to increase living standards all over the world is quite substantial. There are two pieces to its success. First, the traditional hierarchical bureaucracy figured out how to massively leverage steam energy to replace human labor--first in mills and railroads, and then in virtually every aspect of industrial life. The second piece is the articulation of effective management practices to create a "profession of management" with its own language, logic, values, and worldview and stewarded by schools of business.

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[7] TMF, *Artificial Intelligence will redesign healthcare*, http://medicalfuturist.com/artificial-intelligence-will-redesign-healthcare/(26.09.2017)

The basic logic of the traditional hierarchical model is efficiency by reducing variability in input-throughput-and output. The objective, more recently codified, is to maximize shareholder value—particularly in the short run.

One can make an argument that the traditional model works best (is a good choice) when the world is relatively predictable, where trends are relatively clear, where problems are relatively straightforward and can be solved by a few well-educated managers whose insights are formulated into plans that cascade down from the top of the hierarchy and are implemented by the managers and workers below, and where the market is happy to absorb the output thus produced. But that world seems to be rapidly disappearing. Because of the interconnectedness made possible through the internet, because of globalization, and because of the increase in the rate of change, the predictable low variability conditions that held when the traditional model was being developed no longer hold. The world isn't simple. It isn't even just complicated. It's complex!

So in today's world, organizations are jostled by complexity. What's the effect of a regulation, that's affected by a new technology, that's developed by a new competitor in a different part of the world, for a set of customers you never had your eye on before, but whose voice is growing and may convert your current customers? The organizational environment is now constantly threatened by disruption. And so the task isn't so much to try to smooth out all the disruptions and still push for efficiency, it's to look at all the places where disruption opens an opportunity for a creative, high-value response that embraces the competing constraints rather than trying to make them go away. This is the nature of what's now called "the Creative Economy." And in this economy, the lattice organization seems to offer advantages that the traditional hierarchy cannot.

Now if we go back to our two technology trends—robots and AI—we can see how each impacts these two organizational structures differently. Robots are a dream for the traditional efficiency-driven organization. Robots can reduce variability way below what humans can achieve, and robots can run 24-7. Efficiency is enhanced.  And the new type of robot—equipped with rudimentary AI—can be taught to respond differently in different pre-determined situations—but always the same in each situation. (Classic examples are voice-machines that take orders, take calls for prescription refills, and so on.)  So again, variability is reduced and efficiency is enhanced. More advanced AI, however, will also likely be prized in the traditional organization. As big data and big computing power are brought together, it's possible to unpack the complicated and make smart predictive choices. Many things that managers now do can be handed off to (or at least augmented by) an AI machine that can handle precisely masses of data that a manager could only handle intuitively. In situations of both robots and AI, the traditional organization sees these new technologies as helping them achieve their goal of efficiency via technologies that displace jobs and the variability that comes with having humans do anything.

In the lattice organization in the Creative Economy, these two technologies are likely to play out differently. In some sense, robots will be irrelevant to the value-generating processes of the organization. They may be present, but as an outsourced function. So, for example, a Creative Economy office may have smart vacuum cleaners constantly roaming the halls picking up dust and trash. Maybe the vacs will be owned by the organization, but more likely they will be owned by a janitorial service that the organization contracts with. In a similar way, Apple currently does not make its various iPhones and iPads, but outsources their manufacture to Foxconn. Apple won't be big on robots, but Foxconn will.

As for AI in the lattice organization, it is likely to become a powerful tool that provides more grist for uncovering high value opportunities and collaboratively generating high value solutions. It will not, per se, replace people, but may in fact accelerate the number of people hired and employed generating customized creative solutions.

**Different managerial approaches**

In their book, *An Everyone Culture*[8], Harvard scholars Daniel Kegan and Lisa Laskow Lahey argue that there are two different managerial approaches emerging, one which is "high pleasure, low pain" and the other is "human flourishing." The high pleasure, low pain approach is manifested in many high-tech companies where there is food 24-7, on-premise gyms and concierge services, and a dogs-at-work policy. Employees may have unlimited vacation, great 401K retirement benefits, a well-defined career path with mega future opportunities. Of course, only the most profitable companies can afford to be so lavish, but nonetheless, many aspire to this vision and it represents an approach obviously correlated with financial success, and easy to emulate—if you have the money. Indeed, most "best companies to work for" lists singularly point to the Perks and Benefits that make a company a great place to work.

In contrast, Kegan and Lahey identify a second approach, one they claim is focused not so much on maximizing pleasure and minimizing pain, but on creating conditions at work for human flourishing. What do they mean by human flourishing? They say it overlaps with the high-pleasure, low-pain approach, but "includes an experience of meaning and engagement but

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[8] Daniel KEGAN and Lisa Laskow LAHEY, *An Everyone Culture,* Harvard Business School Publishing: Boston, Massachusetts 2016

in relation to the satisfactions of experiencing one's own growth and unfolding, becoming more of the person one was meant to be, bringing more of oneself into the world."[9]

Interestingly, where there are many companies whose names come to mind when thinking about the high pleasure, low pain approach, there are far fewer when thinking about the human flourishing approach. (Is that because there are objectively fewer of them, or because the 'best companies' lists have promoted the former and made them more familiar fixtures on our awareness?)

**Virtues in the organization of the future:  The example of W. L. Gore & Associates**

It may be odd to speak of the organization of the future, and then to use a here-and-now example like W. L. Gore & Associates.  But, as William Gibson quipped, "The future is already here—it's just not very evenly distributed."[10]  It may also be odd to speak of virtues in business organizations.  Other than perhaps those focused on business ethics, not many management scholars have concerned themselves with virtues at work.

Of the various scenarios, the human flourishing in a lattice organization of the Creative Economy is the most personally appealing, and the one that seems most conducive to allowing men and women "to employ and develop by means of labor the gifts received from God." Why is that? In these organizations, people are treated more like people with agency and less like objects to be manipulated by others. Certainly that is what I and most Associates experienced during our time at Gore. As I've thought about it, in an organization like Gore, there is a reciprocal relationship between what the organization expects/requires and makes possible of people, and

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[9] *Ibid, pp 11*

[10] William GIBSON, *The science in science fiction,* reported in https://en.wikiquote.org/wiki/William_Gibson (26.09.2017)

what people bring to the organization and what they become as a result of being in the organization. I have come to see this reciprocity through the lens of virtues. And as I've reflected on my experience at Gore, I've coalesced around four virtues that seem significantly operative in lattice organizations. These are: trustworthiness, caring, self-responsibility, and magnanimity. Let me unpack each briefly, and relate each to my experience at Gore.

*Trustworthiness.* Almost any organizational leader or scholar will say that trust is necessary for high performance in the organization. But trust isn't itself a virtue, it's the result of the virtue of trustworthiness. I trust someone because they are trustworthy. Trustworthiness is made up of three elements: intention, competence, and ethical behavior. At Gore, ethical behavior was a rock bottom requirement. Periodically, a new sales Associate might caution that, in a particular country, the only way to get a sale was to offer a "consideration" to someone perhaps in a government agency or in the purchasing company itself. If that was true, then Gore would walk away from that potential sale, and from that country.

An oft-heard phrase at Gore was, "make your own commitments, and keep them." Of necessity, Associates were expected to assess their capability and competence in an area before making a commitment. Commitments (rather than managerial directives) were the basis for getting things done and for the commitment process to work, people had to be able to do what they said they would do.

Finally, at Gore, intention was crucial, and the good intention was looking to the interests of the common good—to focus on what's best for the Enterprise rather than what's best for my business or function, and certainly rather than what's best for me. Indeed, one of the fastest ways to become seen as untrustworthy at Gore was to be seen as much more interested in your own personal agenda than the collective good.

Because Gore did not operate with a command-and-control structure, being seen as trustworthy was instrumental to being asked to join any of the many collaborative efforts that made up the businesses of the Enterprise. If you weren't seen as trustworthy--if patterns of past behavior showed a lack of good intention, competence or capability, and ethics—there was little likelihood that you would get the chance to work collaboratively with others, and thus little chance to make a contribution. If you lost the trust of others, it was often difficult to get it back.

Interestingly, because most Gore Associates WERE trustworthy, there was a pay-it-forward view of trust in the organization. That is, most people on joining Gore are surprised at how much they are trusted (given the presumption of trustworthiness) right from the start. Yes, you had to prove yourself trustworthy in order to be trusted to take on more extensive or important commitments, and not everyone was equally trusted. But presumption of trustworthiness came with being hired as an Associate, unlike some organizations where skepticism is the order of the day and the presumption is that you can't be trusted.

*Caring.* Where trustworthiness is focused inwardly on the individual, caring is focused outwardly on others. Caring is a broad category that would include things like kindness, compassion, and friendship--all with an orientation to the needs of the other. At Gore, whenever you found yourself in a tough spot—at home or at work—where things were difficult, you could count on a fellow Associate to try to help you out. Sometimes it might be just some kind words. Sometimes it might be an offer to pitch in and take something off your plate. Sometimes if might be organizing collective assistance when something really bad has happened.

Another interesting way that you could tell that Associates care about each other, though, was how much feedback they provide one another. I've heard many new Associates say something like, "I've gotten more feedback in my first month at Gore than I did in the 10 years I

was at my old company." It was not uncommon for an Associate to be pretty direct after a meeting, or maybe after someone did not come through on a commitment, for there to be a constructive discussion between Associates who would see themselves as peers. "What you did was a problem." "You probably didn't realize the effect it was having on others." "You might try something like this next time." The feedback was not accusatory, and not given to make someone look bad. It would be given, usually privately, and not to some third party. Why is this an example of caring? Because what motivated the feedback was a genuine wish to help the other—to avoid similar mistakes in the future, to increase rather than limit their contribution. Often in organizations, we find it hard to give difficult feedback and that's because we often assume that's the responsibility of the person's supervisor, or we don't want to be mean. But not giving feedback that can help someone improve is actually not being helpful.

Like trust, caring at Gore operated as a pay-it-forward process. As Bill Gore would often say, "a good reason to give help is because some day you may need help."

*Self-responsibility.* In many organizations, there is the notion that people need to be held accountable, and that one of a manager's main responsibilities is to make sure they are holding their direct reports accountable. How do we hold our people accountable is a common discussion among HR professionals and executives. But that may be the wrong question. Instead of asking how we hold people accountable, we should be asking—how do we create the conditions where people will hold themselves accountable?

What we want are people who are self-responsible. That is, they're more than just responsible. Responsible means you will do what you're told. Being self-responsible means you're willing to do what needs to be done, and to be accountable for the consequences of your

decisions and actions. If there's a piece of trash in the hallway, you pick it up yourself instead of saying "it's not my job" and leaving it for the janitorial crew.

And you don't play the blame game. Saying you did something that ended up being a mistake because someone else told you to do it is the blame game. People who are self-responsible do not pass the buck, or try to shift the blame to others. Whenever a situation arises where there are negative consequences, they are as likely to ask themselves—what did I do to contribute to the situation?—as they are likely to point to what someone else did. (Constructively pointing to what someone else did that contributed to a negative consequence, remember, is an act of caring.) Self-responsible people are willing to admit mistakes, and to learn from them rather than repeating them.

Being self-responsible was necessary to allow Gore to operate without a lot of rules, policies, and supervisory oversight. Associates had lots of discretion in making judgments about investments—anything from what dinner to eat when traveling to what major piece of machinery should be bought for a new manufacturing process. As I said before, as one proved one's trustworthiness, the scope of one's freedom to make a decision or take an action would grow. With this growth of responsibility came an extraordinary sense of effective agency, or what organizational psychologists call "self-efficacy."

*Magnanimity.* Back in the early 1960s, Abraham Maslow, famous for "Maslow's Hierarchy of Needs" was commenting on what he believed were the requirements for what might be called a lattice organization to work. One thing he identified was "the ability to admire."[11] What he meant was that rather than being petty and envious and focused on self-promotion, they needed to be appreciative of the unique talents and skills and expertise of others. Instead of

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[11] Abraham MASLOW, *Maslow on Management,* E*nlightened economics and management,* John Wiley & Sons: New York, 1998 pp. 25

saying, "I could have done that if I had the chance," they need to be able to say, "Wow! What you accomplished was great!"

As with caring, magnanimity creates an outward (rather than inward) mindset. It does not look at the world as a zero-sum game, where every bit of praise and appreciation you get means praise and appreciation I do not get. And it helps reinforce a sense of solidarity as one comes to appreciate all the many contributions that others are making to the common good. Bill Gore was fond of saying that Gore was a place where "ordinary people did extraordinary things." He was quick to give the credit, rather than steal the credit, and it created a work environment that was strong on collaboration and leveraging the diverse capacities of each individual Associate.

**Concluding Thoughts**

As the call for papers for this conference reminds us, 1917 represents the 100th anniversary of the Communist Revolution in Russia, and has been called out by conference organizers as a significant game-changer in our understanding of work. I'd like to call out a more prosaic, but still significant game-changer: the invention of the cheap "Fordson" tractor by Henry Ford in 1917 that transformed (American) farming. The Fordson tractor first replaced horses, and then people, on farms.[12]

In 1910, farm families comprised about 33% of the American population. Now they comprise about 2%. It would be hard for a farmer in Iowa in 1917 to imagine that in about 100 years, 99% of the people who worked on farms would be out of their jobs! So we need to have

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[12] Derek THOMPSON, *How the tractor (yes, the tractor) explains the middle class crisis,* https://www.theatlantic.com/business/archive/2012/03/how-the-tractor-yes-the-tractor-explains-the-middle-class-crisis/254270/(26.09.2017)

some humility in trying to imagine what the future of work will bring. With the trends I've outlined in this paper, there are a number of binary scenarios, and we will probably end up with mish-mash of them (at least in the near term future) before we see which of the various scenarios dominate the future of work.

But let me offer a few concluding thoughts about the future of work.

1) A jobless future where people are given a universal basic salary is not utopian, but dystopian. To create a future where humans are no longer co-creators along with God, but simply consumers to keep the economic machinery churning along is not a good thing. The promoters of such a future vision often say that, with no job to constrain them and a universal basic salary to provide for their material needs, people will be able to develop their artistic talents, or do volunteer work, or find some other good. The American experience of the last 20 years does not hold out such promise for a jobless future. The 20-29 year old male demographic in the US shows the lowest labor participation rate of all the age/sex groups. What do these men do with their work-free time? Develop their artistic talents? Volunteer? Hardly. As Charles Murray has documented, they live with their parents or their girlfriends (marriage isn't the relationship category of choice) and they deal in drugs or spend their time playing video games or use the internet to consume pornography.[13] The technological future (robots, AI, universal basic salary) holds the possibility that man is reduced to a consumer, rather than a creator. Dystopian, indeed.

2) Virtuousness at work will be increasingly important, both for the individual and for the organization. For some individuals, the future offers perhaps a demoralizing sense of inevitable replacement by a smart machine. For others, the future offers perhaps the opportunity to experience a greater sense of agency, contribution, and solidarity at work. In either case, the

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[13] Charles MURRAY, *Coming Apart: The State of White America, 1960-2010*, Random House: New York 2013.

human person's response to work in the future will require a spiritual dimension. Once again I quote from Peter Drucker, who in 1959 wrote:

"The individual (will need to) the return to spiritual values, for he can survive in the present human situation only by reaffirming that man is not just a biological and psychological being but also a spiritual being, that is creature, and existing for the purposes of his Creator and subject to Him."[14]

3) How we understand different categories of work will change dramatically. The call for papers for this Conference asks for papers on "professional work." How does our understanding of professional and professionalism square with the emerging nature of organizations and work?

The implication of my analysis then is that the organizational structure and managerial approach that one finds oneself in may be far more important than the current categories of professional and non-professional work. That is, in an efficiency-driven organizational structure with a Theory X managerial approach, whether one is a professional, laborer, or craftsman, one is constrained so as to limit variance (and one always lives in fear of being displaced by a robot or AI). In a lattice organization striving for creativity and innovation, whether one is a professional, laborer, or craftsman, one's agency is affirmed and one's unique talents and contributions are appreciated. In keeping with Kegan and Lahey, we can say that the tagline for these organizations in the future won't just be "bring your whole self (or best self) to work," but "*become* your best self at work."

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[14] Peter DRUCKER, *The Landmarks of Tomorrow: A Report on the New 'Post-Modern' World,* 1959 p. 126