A World without Work?
Technology, Automation, and the Future of Work

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What Is Your Narrative?

Human Purpose and the Future of Work

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In 1798, Thomas Malthus—who held the titles of both reverend and economist—published the widely read “An Essay on the Principle of Population as It Affects the Future Improvement of Society.”

Though the book would undergo multiple future revisions, its same central theme remained: society is doomed.

In essence, Malthus argued that human reproduction would continue at an exponential rate, while resources such as land would be limited to linear growth. Given this, each incremental unit of input for productive activity would inevitably lead to diminishing marginal output. In the words of Malthus, “The power of population is so superior to the power in the earth to produce subsistence for man.”

Or, more bluntly, there simply is not enough food to go around.

This economic appraisal contrasted sharply with the hopeful march of economic progress advertised by Adam Smith and his contemporaries. For Malthus, society was not a complex system iterating toward an inevitable utopian arrangement. “On the contrary,” writes economic historian Robert Heilbroner, “those natural forces that once seemed teleologically designed to bring harmony and peace into the world now seemed malevolent and menacing.”

Centuries later, it is clear that Malthus’ predictions did not come to pass. However, we do not find ourselves immune from potentially “malevolent and menacing” forces. In this short paper, my aim is to consider the ever-increasing rise of automated machinery and the implications for labor in tomorrow’s economy. My hope is to
sufficiently argue that determining the future of work is intricately tied to our narrative conception of human nature and purpose.

The End of Work?

“We will soon be looking at hordes of citizens of zero economic value.” So say William Davidow and Michael Malone in a recent Harvard Business Review article. The logic is simple: where capital used to be considered as complementary to labor, it now risks being understood as its substitute. The difference, note the authors, is the rate of progress. Advancements in machinery were slow enough in decades past that technology could be harnessed by the laborer. In contrast, today’s progress and intelligent machinery is no longer a passive mechanism to be channeled but an active force destined to succeed human capital. “The Machines Are Coming,” reads one headline from a popular news source.

What are we to make of this? For some, labor-replacing innovation is “freedom from drudge work.” Complex and intelligent machinery can now undertake otherwise undesirable chores. Not only can we relegate “toil” to, say, robots but also we benefit from their efficiencies. Consider, for example, what it is like to get an airline boarding pass today relative to even a decade ago.

Labor-replacing machinery can effectively cut costs, democratize access to goods and services, and release humans from unpleasant but necessary work to pursue other, more attractive, options. Respondents to a 2014 Pew study suggested, “Technology will free us from day-to-day drudgery, and allow us to define our relationship with ‘work’ in a more positive and socially beneficial way.” Put differently, artificial intelligence and automated machinery is presumed to make our lives easier.

Yet not all work is “drudgery.” Indeed, since the Industrial Revolution, human progress has been intricately linked with our industriousness. Who we are closely corresponds to what we do. Take away the latter, and you short-circuit the former. Aside from issues in identity, labor, and the value creation therein is the indisputable means for earning one’s living in a meritocratic, market-based society.
The threat of job loss because of technological innovation comes not only with what social scientists call psychosocial costs but also a potential reconceptualization of distribution altogether. Understood in these terms, human persons devoid of economic value look to be more dour in the long term than helpful.

The predictions of a technology-dominated labor force are not merely conspiratorial forecasts of modern-day Luddites. A recent study from Oxford University estimated that 47 percent of the US labor market is eligible to be “mechanized out of business.”\textsuperscript{8} Erik Brynjolfsson, an MIT professor, believes that we are now beginning to see the rate of job destruction outpace job creation. In other words, we are witnessing economic growth without the emergence of new jobs, a trend Brynjolfsson directly attributes to automation.\textsuperscript{9}

Brynjolfsson is not alone. Author Derek Thompson offers three compelling reasons for why “the beast is at the door” when it comes to automated labor. First, human labor has been diminishing since the turn of the century. Many correlate this trend with businesses that have opted for computers and software in place of human capital.

Second, a key statistic, according to economist Tyler Cowen, relates to labor trends in “prime-age” Americans (ages 25 to 54). A close inspection reveals that the number of people within this category who are working or looking for a job has been trending downward for the last 15 years. In addition to unemployment, underemployment (those working in jobs they are overqualified for) is trending upward.

Finally, tomorrow’s technology is now visible today. With the advent of drones and self-driving cars, it is not difficult to imagine their eventual usage in otherwise previously untouched fields (for example, a drone delivering a pizza). Thompson concludes, “Technology could exert a slow but continual downward pressure on the value and availability of work.”\textsuperscript{10}

To summarize, the future of work is at stake. Human labor provides healthy self-identification and the means to subsist, save, and accumulate. Yet current trends suggest that our labor is at risk of being replaced by superior machinery. To borrow a phrase from Malthus himself, our job-market outlook has a “melancholy hue”
Indeed, today’s changing labor landscape seems to vindicate the reverend’s ominous predictions and, two centuries later, trigger a new collection of Malthusian sensibilities for the modern Westerner.

**History Often Rhymes**

So, are we witnessing the end of work? Malthus, I submit, offers a helpful starting point to engage this complex question. These concerns may appear different and seemingly unrelated to the issues raised by Malthus in centuries past. However, as William James writes, our world’s history is nothing other than a “rivalry of patterns.” Or, as Mark Twain is claimed to have said, “History does not repeat itself, but it does rhyme.”

Today’s economic topics and vocabulary may differ from those presented by Malthus, but that does not mean they lack a Malthusian element. Where Malthus expressed concern over population growth, our modern concerns relate to the dizzying proliferation of artificially intelligent machinery. Similarly, where Malthus feared an abundance of humans and a scarcity of food, today’s reality is an abundance of laborers and a scarcity of jobs.

More than 200 years later, it is clear that Malthus’ apocalyptic vision did not come to pass. Why? What did Malthus miss in his calculations? Many will rightly suggest that Malthus did not accurately predict the growth of output per person because of innovative production techniques. With the Industrial Revolution came a “massive re-organization of production” that saw extraordinary leaps in output per person. Indeed, the early-20th-century Western world marveled at pioneering forms of productivity such as the diesel engine, radios, airplanes, and penicillin. This productive renaissance minimized if not altogether dismissed Malthus’ original concerns.

Productive growth through innovation and increased output per person helps us to understand Malthus’ miscue as it relates to predicting Western society’s sobering economic future. However, Malthus did not simply underestimate opportunities for harnessing technological advancements in matters of productivity. His forecast logically followed from his conception of human anthropology. That
is, he held a particular view of what it meant to be human. Understanding this perspective may offer insight for our present context.

It would be misguided to simply suggest that Malthus failed to predict new forms of productivity from capital; it is that he failed to answer why such productivity might even emerge in the first place. Malthus asserted that the human population would not grow indefinitely, because natural forces such as starvation, war, famine, or other forms of calamity would always bring the population back into equilibrium with the level of resources necessary to survive. This Malthusian trap would forever describe the human lot: a struggle for existence in a world of finite resources.14

Much can be said here, but two considerations are worth attending to. First, this offers an attenuated conception of our human makeup. To borrow a phrase from Arthur Brooks, the implication is that humans are not “assets to be developed”—but rather “liabilities to be managed.”15 That is, humans are constituted by consumption, not production; depletion, not creation.

Second, Malthus’ picture of humanity as being trapped in an ongoing struggle for survival underscores a distinctly evolutionary understanding, where the organisms that endure in a competitive environment are the ones whose random mutations are best adapted to exist beyond their less equipped opponents. It is not surprising, then, that Malthus’ theories have been described as influential to Charles Darwin and his theory of natural selection.

For our purposes, we may refer to this as the chaos narrative. Because beings have specific needs to survive and the resources necessary for survival are limited, they are inevitably in conflict with one another. Further, beings that reproduce with superior qualities will outpace and outlive their less adapted counterparts. Thus, humans are characterized by their survival attributes, or what Darwin himself called “favourable variations.” Here, human teleology gives way to pragmatism: if it works, it endures.

While the language may differ, we find a similar chaos narrative today relative to automated labor. Consider the influential documentary Humans Need Not Apply by C. G. P. Grey. In one part of the film, he predicts a fully automated future labor force by
comparing humans to horses. After discussing how the horse pop-
ulation dropped dramatically after 1915 because of new forms of
transportation, machinery, and so forth, we hear: “There isn’t a rule
of economics that says better technology makes more, better jobs
for horses. It sounds shockingly dumb to even say that out loud,
but swap horses for humans and suddenly people think it sounds
about right.”

In another area, the film likens the human brain to a complicated
machine. Further, the complexity of other computers, robots, and so
forth will soon surpass the complexity of our brain machines—thus
making us obsolete. We have only managed to outpace computers
in the workforce up until now because our cerebral circuits are more
advanced than the technological alternatives.

So, whether using a horse, a computer, or any other creative met-
aphor to describe humans, the point is clear. Sooner or later, we will
become dated and unnecessary. We simply do not have the features
that will allow us to keep up, outsmart, or outrun our future’s new
robotic working class.

Note that the chaos narrative contains its own explanation of
order. Consider the Google-employed futurist Ray Kurzweil, who
suggests that there are six epochs to evolution and life. Presently, we
are nearing the end, because human intelligence has been success-
fully merged with technology. Eventually, the exponential growth of
technology, information, and intelligence will become incomprehen-
sible for humans.

In the end, claims Kurzweil, there will cease to be any resemblance
of a human, as we presently understand it, and only “transhumans,”
or human consciousness embodied in machinery. Humans, proper,
are merely cogs in the larger—ever advancing—evolution machine
whose march into blissful, technocratic progress is inevitable.

An Alternative Reality: Design Narrative

While the chaos narrative may be an implicit or explicit metanar-
rative underlying tomorrow’s labor forecasts, another metanarrative
is worthy of consideration when addressing the issues of human
productivity in an age of robotic innovation. We may refer to this as the “design narrative.” In contrast to chaos, this narrative—cut from the cloth of the faith tradition—describes humanity as being deliberately designed and uniquely created. Thus, to understand human purpose, we must first understand the designer.

The creation narrative of the Judeo-Christian tradition tells us that God is creative, productive, and relational. Creation, and relating to creation, is an overflow of God’s nature; it is in his essence to create and relate. To go a step further, God relates to his creation (human-kind) in a loving way. It is here that we find an important caveat. God does not simply show love—God is love.17

Understanding the nature of God has direct implications for understanding our own nature as humans. We are told in the Genesis account that man was created in God’s image, the Imago Dei.18 If we accept this line of thinking, there are several important implications for how we should understand human nature and purpose.

First, every human being has an inherent dignity because he or she was deliberately created and bears God’s image. Orthodox faith tells us that each life is supremely valuable because that life was created by God and bears his image.

Second, we have attributes of our creator inherent in our being. This, of course, does not mean we are like God or we are God—but it does mean that we bear his thumbprint. Imago Dei literally means an image or likeness of God. That is, we have a Godlike resemblance. Therefore, we might say that when we produce, create, and relate, we are coproducing, cocreating, and corelating with God. We are exercising these image-reflecting attributes.

Third, this means that humans have an elevated status in God’s created order. Though all of creation originates from the creator, it is only human beings, we are told, that bear his likeness. In contradistinction to other creatures (including complex manmade machinery), humans can exercise both reason and will on the world. We can consider our circumstances, reflect on the past, and intuit the future. Further, we possess consciousness; that is, we have a sense of self, or what we often call agency. Finally, Imago Dei means that we are spiritual beings. We are not simply the sum of our biological
components. Nor does our value merely rise to the level of our economic productivity. We have a spirit; a soul.

**Implications for Future Labor**

While not exhaustive, I want to offer three implications of the design narrative (and its depiction of human nature and purpose) for navigating the complexities of our dynamic labor landscape.

First, metaphors matter. If humans are designed and resemble the productive, creative, and relational qualities of the designer, then we should be entirely skeptical of attempts to compare humans to horses, advanced computers, or any other organism that does not bear God’s image. If humans are, indeed, advanced processors that resemble machine-like capacities, then it is not unreasonable to expect that we would become obsolete and thus replaceable once similar organisms evince qualities better suited for survivability in a competitive landscape.

Yet what if we are not? As Michael Harris writes in his thought-provoking book *The End of Absence*, the largest database in the world, the most complex computer system, the most advanced adaptation of artificial intelligence “still lacks the honed narrative impulse of a single human mind.”

If we conceptualize ourselves under the design narrative, then we have a new basis for appreciating human adaptability and malleability. As economists like to say, when variables change, rational humans adjust their behaviors accordingly. These adjustments recruit the unique human qualities found in our embodied selves. That is, we have capacities for assessment, critical thinking, and problem solving (reason); we are characterized by free agency and obligation (will); we are constituted by cooperative interactions and find meaning and connection in others (relation); and we possess and regularly exercise compassion, goodwill, and commitment (emotion). Given this, trite comparisons of human personhood to computers or animals appear, to borrow C. G. P. Grey’s expression, “shockingly dumb.”

Second, human ontology makes us unique (and thus difficult to
fully replicate) in the economic realm. In his book *Redeeming Economics*, John Mueller writes:

Jesus once noted (as an astute empirical observation, not divine revelation) that since the days of Noah and Lot, people have been doing—and presumably will continue to do for as long as there are humans on earth—four kinds of things. He gave these examples: “planting and building,” “buying and selling,” “marrying and being given in marriage,” and “eating and drinking.” In other words, we human beings produce, exchange, give (or distribute), and use (or consume) our human and nonhuman goods.20

We know in economics that value is created through the process of exchange. A free and open marketplace creates the conditions for mutually beneficial trade through interpersonal transactions or the medium of businesses. Trade and exchange relationships are not simply constituted by consumption, but by production. That is, economic activity cannot be understood in terms of consumption alone. As humans, we have productive capacities that are intricately tied to consumption and thus value.

Moreover, it is important to note that value is based on human conception, and such conceptions are conditioned by an ensemble of economic, social, political, moral, and spiritual factors that are often unique to individuals. Machinery, based on this conception of value, can neither confer nor create value in itself. It is always a function of human exchange, even if facilitated in some way, shape, or form through machinery. Among other things, this would make complete robotic substitution of human production and consumption impossible in an orthodox economic sense.

Third, and related to the second point, as a teleological creature, humans are endowed with moral and spiritual sensibilities. The design narrative not only posits man as a moral being but also as a being that inhabits a moral reality. Therefore, in line with the Aristotelian tradition, human goodness is bound up with fulfilling human purpose: doing the thing we were designed to do. Virtually no mechanism in the world of automated technology
accounts for this, even though it is a distinct dimension of the human experience.

Consider Google Chairman Eric Schmidt’s claim that the technological corporate powerhouse can “make you smarter” if provided with enough of a user’s data. Note, though, that Google cannot make humans better. That is, Google can equip us with data-driven decision making, but it cannot imbue moral excellence or inculcate a deeper, more contemplative moral imagination.

Not that we have not attempted it. The rise in automated machinery naturally gives rise to ethical quandaries based on how they are deployed. While this necessitates ethical programming in autonomous robotic entities, it fails to answer the question: whose ethics?

Indeed, in a 2012 *Economist* article titled “Morals and the Machine,” one author casually recommends that “where ethical systems are embedded into robots, the judgments they make need to be ones that seem right to most people.” While the comment is likely to gain acceptance in its presently generic form, presenting a specific ethical predicament is altogether unlikely to gain widespread acceptance among the masses.

For example, consider a dilemma posed by Stanford University’s Chris Gerdes as it relates to autonomous automobiles: if a young child runs in front of a self-driving vehicle, should the car hit the child (likely killing the child) or swerve into an oncoming van (likely killing the vehicle’s passengers)? The expectation of achieving moral consensus for this or similar dilemmas is highly unlikely, thus supporting Alasdair MacIntyre’s claim that competing views of justice and ethical action is often “incommensurable.”

**Conclusion**

Will jobs soon become a relic of the past? Are we slowly witnessing the end of work? Are our present-day Malthusian sentiments justified? In this paper, I have attempted to suggest that our answers to these questions begin with an antecedent question: what is your narrative?

Under the chaos narrative, humans cannot keep pace with
superior robotic beings in terms of productivity and processing, leading to their logical and inevitable replacement. That is, human capital as we know it is necessarily disposable because it is predicted to equal zero economic value.

In contrast, under the design narrative, human beings have a God-reflecting ontology and a deliberately designed teleology that makes us unique in the created order. While nothing in the design narrative would fail to recognize or even applaud the innovative leaps and bounds inherent in technological progress, human beings made in God’s image exist as the protagonist to this story.

Thus, in matters of human teleology, progress is not simply advancing information and productivity; it is fulfilling human purpose—the very command of Christ in Matthew 5:48 to “be therefore perfect (‘telos’)”—or, as Eugene Peterson writes in The Message, “Live out your God-created identity.” As image bearers, a significant dimension of human purpose is to relate, create, and produce.

This essay does not attempt to say what the future of work will be, exactly. As Malthus would struggle to predict, let alone comprehend, a diesel engine, it is equally difficult for us to forecast our future arrangements. However, if we accept the design narrative as our overarching metanarrative, I humbly submit that we can indeed say what the future of work will not be: human obsolescence.

About the Author

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Notes

2. Ibid.


14. Given this gloomy picture, it is little wonder that Scottish philosopher and Malthus contemporary Thomas Carlyle referred to the economic discipline as a “dismal science.”


17. I John. 4:8.


