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Business and the Ethical Implications of Technology

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Contents

Business and the Ethical Implications of Technology: Introduction to the Symposium	1
Kirsten Martin, Katie Shilton, and Jeffery Smith	
Technological Unemployment, Meaning in Life, Purpose of Business, and the Future of Stakeholders	13
Tae Wan Kim and Alan Scheller-Wolf	
Is Employee Technological “Ill-Being” Missing from Corporate Responsibility? The Foucauldian Ethics of Ubiquitous IT Uses in Organizations	33
Aurélie Leclercq-Vandelannoitte	
A Micro-ethnographic Study of Big Data-Based Innovation in the Financial Services Sector: Governance, Ethics and Organisational Practices	57
Keren Naa Abeka Arthur and Richard Owen	
The Challenges of Algorithm-Based HR Decision-Making for Personal Integrity	71
Ulrich Leicht-Deobald, Thorsten Busch, Christoph Schank, Antoinette Weibel, Simon Schafheitle, Isabelle Wildhaber, and Gabriel Kasper	
Digital Trust and Cooperation with an Integrative Digital Social Contract	87
Livia Levine	
Multi-stakeholder Partnerships for Sustainability: Designing Decision-Making Processes for Partnership Capacity	103
Adriane MacDonald, Amelia Clarke, and Lei Huang	
Shine a Light: How Firm Responses to Announcing Earnings Restatements Changed After Sarbanes–Oxley	121
Jo-Ellen Pozner, Aharon Mohliver, and Celia Moore	
Gender Stereotyping by Location, Female Director Appointments and Financial Performance	139
Sok-Hyon Kang, Ying Li Compton, and Zinan Zhu	
The Impact of Corporate Tax Avoidance on Board of Directors and CEO Reputation	157
Roman Lanis, Grant Richardson, Chelsea Liu, and Ross McClure	
Why Does Energy-Saving Behavior Rise and Fall? A Study on Consumer Face Consciousness in the Chinese Context	193
Li Wang, Feng Wei, and Xin-an Zhang	
Female CEOs and Core Earnings Quality: New Evidence on the Ethics Versus Risk-Aversion Puzzle	209
Alaa Mansour Zalata, Collins Ntim, Ahmed Aboud, and Ernest Gyapong	

Predicting Accounting Misconduct: The Role of Firm-Level Investor Optimism	229
Shantaram Hegde and Tingyu Zhou	
Understanding Communication of Sustainability Reporting: Application of Symbolic Convergence Theory (SCT)	257
Mohammed Hossain, Md.Tarikul Islam, Mahmood Ahmed Momin, Shamsun Nahar, and Md. Samsul Alam	
Factors Eliciting Corporate Fraud in Emerging Markets: Case of Firms Subject to Enforcement Actions in Malaysia	281
Abdul Ghafoor, Rozaimah Zainudin, and Nurul Shahnaz Mahdzan	



Business and the Ethical Implications of Technology: Introduction to the Symposium

Kirsten Martin¹ · Katie Shilton² · Jeffery Smith³

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Abstract

While the ethics of technology is analyzed across disciplines from science and technology studies (STS), engineering, computer science, critical management studies, and law, less attention is paid to the role that firms and managers play in the design, development, and dissemination of technology across communities and within their firm. Although firms play an important role in the development of technology, and make associated value judgments around its use, it remains open how we should understand the contours of what firms owe society as the rate of technological development accelerates. We focus here on digital technologies: devices that rely on rapidly accelerating digital sensing, storage, and transmission capabilities to intervene in human processes. This symposium focuses on how firms should engage ethical choices in developing and deploying these technologies. In this introduction, we, first, identify themes the symposium articles share and discuss how the set of articles illuminate diverse facets of the intersection of technology and business ethics. Second, we use these themes to explore what business ethics offers to the study of technology and, third, what technology studies offers to the field of business ethics. Each field brings expertise that, together, improves our understanding of the ethical implications of technology. Finally we introduce each of the five papers, suggest future research directions, and interpret their implications for business ethics.

Keywords Technology · Socio-technical systems · Science and technology studies · Privacy · Values in design · Social contract theory

Mobile phones track us as we shop at stores and can infer where and when we vote. Algorithms based on commercial data allow firms to sell us products they assume we can afford and avoid showing us products they assume we cannot. Drones watch our neighbors and deliver beverages to fishermen in the middle of a frozen lake. Autonomous vehicles will someday communicate with one another to minimize traffic congestion and thereby energy consumption. Technology has consequences, tests norms, changes what we do or are able to do, acts for us, and makes biased decisions (Friedman and Nissenbaum 1996). The use of technology can also have adverse effects on people. Technology can threaten individual autonomy, violate privacy

rights (Laczniak and Murphy 2006), and directly harm individuals financially and physically. Technologies can also be morally contentious by “forcing deep reflection on personal values and societal norms” (Cole and Banerjee 2013, p. 555). Technologies have embedded values or politics, as they make some actions easier or more difficult (Winner 1980), or even work differently for different groups of people (Shcherbina et al. 2017). Technologies also have political consequences by structuring roles and responsibilities in society (Latour 1992) and within organizations (Orlikowski and Barley 2001), many times with contradictory consequences (Markus and Robey 1988).

While the ethics of technology is analyzed across disciplines from science and technology studies (STS), engineering, computer science, critical management studies, and law, less attention is paid to the role that firms and managers play in the design, development, and dissemination of technology across communities and within their firm. As emphasized in a recent *Journal of Business Ethics* article, Johnson (Johnson 2015) notes the possibility of a responsibility gap: the

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abdication of responsibility around decisions that are made as technology takes on roles and tasks previously afforded to humans. Although firms play an important role in the development of technology, and make associated value judgments around its use, it remains open how we should understand the contours of what firms owe society as the rate of technological development accelerates. We focus here on digital technologies: devices that rely on rapidly accelerating digital sensing, storage, and transmission capabilities to intervene in human processes. Within the symposium, digital technologies are conceptualized to include applications of machine learning, information and communications technologies (ICT), and autonomous agents such as drones. This symposium focuses on how firms should engage ethical choices in developing and deploying these technologies. How ought organizations recognize, negotiate, and govern the values, biases, and power uses of technology? How should the inevitable social costs of technology be shouldered by companies, if at all? And what responsibilities should organizations take for designing, implementing, and investing in technology?

This introduction is organized as follows. First, we identify themes the symposium articles share and discuss how the set of articles illuminate diverse facets of the intersection of technology and business ethics. Second, we use these themes to explore what business ethics offers to the study of technology and, third, what technology studies offers to the field of business ethics. Each field brings expertise that, together, improves our understanding of the ethical implications of technology. Finally we introduce each of the five papers, suggest future research directions, and interpret their implications for business ethics.

Technology and the Scope of Business Ethics

For some it may seem self-evident that the use and application of digital technology is value-laden in that *how* technology is commercialized conveys a range of commitments on values ranging from freedom and individual autonomy, to transparency and fairness. Each of the contributions to this special issue discusses elements of this starting point. They also—implicitly and explicitly—encourage readers to explore the extent to which technology firms are the proper locus of scrutiny when we think about how technology can be developed in a more ethically grounded fashion.

Technology as Value-Laden

The articles in this special issue largely draw from a long tradition in computer ethics and critical technology studies that sees technology as ethically laden: technology is built from various assumptions that—either implicitly or explicitly—express certain value commitments (Johnson

2015; Moor 1985; Winner 1980). This literature argues that, through affordances—properties of technologies that make some actions easier than others—technological artifacts make abstract values material. Ethical assumptions in technology might take the form of particular biases or values accidentally or purposefully built into a product's design assumptions, as well as unforeseen outcomes that occur during use (Shilton et al. 2013). These issues have taken on much greater concern recently as forms of machine learning and various autonomous digital systems drive an increasing share of decisions made in business and government. The articles in the symposium therefore consider ethical issues in technology design including sources of data, methods of computation, and assumptions in automated decision making, in addition to technology use and outcomes.

A strong example of values-laden technology is the machine learning (ML) algorithms that power autonomous systems. ML technology underlies much of the automation driving business decisions in marketing, operations, and financial management. The algorithms that make up ML systems “learn” by processing large corpi of data. The data upon which algorithms learn, and ultimately render decisions, is a source of ethical challenges. For example, biased data can lead to decisions that discriminate against individuals due to morally arbitrary characteristic, such as race or gender (Danks and London 2017; Barocas and Selbst 2016). One response to this problem is for companies to think more deliberately about how the data driving automation are selected and assessed to understand discriminatory effects. However, the view that an algorithm or computer program can ever be ‘clean’ feeds into the (mistaken) idea that technology can be neutral. An alternative approach is to frame AI decisions—like all decisions—as biased and capable of making mistakes (Martin 2019). The biases can be from the design, the training data, or in the application to human contexts.

Corporate Responsibility for the Ethical Challenges of Technology

It is becoming increasingly accepted that the firms who design and implement technology have moral obligations to proactively address problematic assumptions behind, and outcomes of, new digital technologies. There are two general reasons why this responsibility rests with the firms that develop and commercialize digital technologies. First, in a nascent regulatory environment, the social costs and ethical problems associated with new technologies are not addressed through other institutions. We do not yet have agencies of oversight, independent methods of assessment or third parties that can examine how new digital technologies are designed and applied. This may change, but in the interim, the non-ideal case of responsible technological

development is internal restraint, not external oversight. An obvious example of this is the numerous efforts put forth by large firms, such as Microsoft and Google, focused on developing principles or standards for the responsible use of artificial intelligence (AI). There are voices of skepticism that such industry efforts will genuinely focus on the public's interest; however, it is safe to say that the rate of technological development carries an expectation that firms responsible for innovation are also responsible for showing restraint and judgment in how technology is developed and applied (cf. Smith and Shum 2018).

A second reason that new technologies demand greater corporate responsibility is that technologies require attention to ethics during *design*, and design choices are largely governed by corporations. Design is the projection of how a technology will work in use and includes assumptions as to which users and uses matter and which do not, and how the technology will be used. As STS scholar Akrich notes "...A large part of the work of innovators is that of '*inscribing*' this vision of (or prediction about) the world in the technical content of the new object" (Akrich 1992, p. 208). Engineers and operations directors need to be concerned about how certain values—like transparency, fairness, and economic opportunity—are translated into design decisions.

Because values are implicated during technology design, developers make value judgments as part of their corporate roles. Engineers and developers of technology inscribe visions or preferences of how the world works (Akrich 1992; Winner 1980). This inscription manifests in choices about how transparent, easy to understand and fix, or inscrutable a technology is (Martin 2019), as well as who can use it easily or how it might be misused (Friedman and Nissenbaum 1996). Ignoring the value-laden decisions in design does not make them disappear. Philosopher Richard Rudner addresses this in realm of science; for Rudner, scientists as scientists make value judgements; and ignoring value-laden decisions means those decisions are made badly because they are made without much thought or consideration (Rudner 1953). In other words, if firms ignore the value implications of design, engineers still make moral decisions; they simply do so without an ethical analysis.

Returning to the example of bias-laden ML algorithms illustrates ways that organizations can work to acknowledge and address those biases through their business practices. For example, acknowledging bias aligns with calls for algorithms to be "explainable" or "interpretable": capable of being deployed in ways that allow users and affected parties to more fully understand how an algorithm rendered its decisions, including potential biases (cf. Kim and Routledge 2018; Kim 2018; Selbst and Barocas 2018). Explainable and interpretable algorithms require design decisions that carry implications for corporate responsibility. If a design team creates an impenetrable AI-decision, where users are unable

to judge or address potential bias or mistakes, then the firm in which that team works can be seen to have responsibility for those decisions (Martin forthcoming).

It follows from these two observations—technology firms operate with nascent external oversight and designers are making value-laden decisions as part of their work in firms—that the most direct means of addressing ethical challenges in new technology is through management decisions within technology firms. The articles in this special issue point out many ways this management might take place. For example, in their paper "A Micro-Ethnographic Study of Big Data Innovation in the Financial Services Sector," authors Richard Owen and Keren Naa Abeka Arthur give a descriptive account focusing on how an organization makes ethics a selling point of a new financial services platform. Ulrich Leicht-Deobald and his colleagues take a normative tact, writing in "The Challenges of Algorithm-Based HR Decision-Making for Personal Integrity" that firms designing technologies to replace human decision making with algorithms should consider their impact on the *personal integrity* of humans. Tae Wan Kim and Allan Scheller-Wolf present a case for increased corporate responsibility for what they call *technological unemployment*: the job losses that will accompany an accelerated pace of automation in the workplace. Their discussion, "Technological Unemployment, Meaning in Life, Purpose of Business and the Future of Stakeholders," asks what corporations owe not only to employees who directly lose their jobs to technology, but what corporations owe to a future society when they pursue workerless production strategies.

The Interface of Business and Technology Ethics

One of the central insights discussed in the pages of this special issue is that technology-driven firms assume a role in society that demands a consideration of ethical imperatives beyond their financial bottom line. How does a given technology fit within a broader understanding of the purpose of a firm as value creation for a firm and its stakeholders? The contributions to this special issue, directly or indirectly, affirm that neither the efficiencies produced by the use of digital technology, nor enhanced financial return to equity investors solely justify the development, use, or commercialization of a technology. These arguments will not surprise business ethicists, who routinely debate the purpose and responsibilities of for-profit firms. Still, the fact that for-profit firms use new technology and profit from the development of technology raises the question of how the profit-motive impacts the ethics of new digital technology.

One way of addressing this question is to take a cue from other, non-digital technologies. For example, the research, development and commercialization necessary for pharmaceutical products carries ethical considerations for

associated entities, whether individual scientists, government agencies, non-governmental organizations, or for-profit companies. Ethical questions include: how are human test subjects treated? How is research data collected and analyzed? How are research efforts funded, and are there any conflicts of interest that could corrupt the scientific validity of that research? Do medical professionals fully understand the costs and benefits of a particular pharmaceutical product? How should new drugs be priced? The special set of ethical issues related to pharmaceutical technology financed through private capital markets include the ones raised above *plus* a consideration of how the profit-motive, first, creates competing ethical considerations unrelated to pharmaceutical innovation itself, and second, produces social relationships within firms that may compromise the standing responsibilities that individuals and organizations have to the development of pharmaceutical products that support the ideal of patient health.

A parallel story can be told for digital technology. There are some ethical issues that are closely connected to digital technology, such as trust, knowledge, privacy, and individual autonomy. These issues, however, take on a heightened concern when the technologies in question are financed through the profit-motive. We have to be attentive to the extent to which a firm's inclination to show concern for customer privacy, for instance, can be marginalized when its business model relies on using predictive analytics for advertising purposes (Roose 2019). A human resource algorithm that possibly diminishes employee autonomy may be less scrutinized if its use cuts operational expenses in a large, competitive industry. The field of business ethics contributes to the discussion about the responsible use of new technology by illustrating how the interface of the market, profit-motive and the values of technology can be brought into a more stable alignment. Taken together, the contributions in this special issue provide a blueprint for this task. They exemplify the role of *technology firmly within the scope of business ethics* in that managers and firms can (and should) create and implement technology in a way that remains attentive to the value creation for a firm and its stakeholders including employees, users, customers, and communities.

At the same time, those studying the social aspects of technology need to remain mindful of the special nature—and benefits—of business. Business is a valuable social mechanism to finance large-scale innovation and economic progress. It is hard to imagine that some of the purported benefits of autonomous vehicles, for example, would be on our doorstep if it were not for the presence of nimble, fast-paced private markets in capital and decentralized transportation services. Business is important in the development of technology *even if* we are concerned about how well it upholds the values of responsible use and application of technology. The challenge taken up by the discussions herein

is to explore how we want to configure the future and the role that business can play in that future. Are firms exercising sufficient concern for privacy in the use of technology? What are the human costs associated with relegating more and more decisions to machines, rather than ourselves? Is there an opportunity for further regulatory oversight? If so, in what technological domain? Business ethicists interested in technology need to pay attention to the issues raised by this symposium's authors and those that study technology need to appreciate the special role that business can play in financing the realization of technology's potential.

In addition, the articles in this symposium illustrate how the intersection of business ethics and technology ethics illuminates how our conceptions of work—and working—shape the ethics of new technology. The symposium contributions herein have us think critically about how the employment relationship is altered by the use and application of technology. Again, Ulrich Leicht-Deobald and his co-authors prompt an examination of how the traditional HR function is altered by the assistance of machine-learning platforms. Kim and Scheller-Wolf force an examination of what firms using job-automation technologies owe to both displaced and prospective employees, which expands our conventional notions of employee responsibility beyond those who happens to be employed by a particular firm, in a particular industry. Although not exclusively focused on corporate responsibility within the domain of employment, Aurelie Laclercq-Vandelannoitte's contribution "Is Technological 'Ill-Being' Missing from Corporate Responsibility?" encourages readers to think about the implications of "ubiquitous" uses of information technology for future individual well-being and social meaning. There are clear lines between her examination of how uses of technology can adversely impact freedom, privacy and respect and how ethicists and policy makers might re-think firms' social responsibilities to employees. And, even more pressing, these discussions provide a critical lens for how we think through more fundamental problems such as the rise of work outside of the confines of the traditional employment relationship in the so-called "gig economy" (Kondo and Singer 2019).

How Business Ethics Informs Technology Ethics

Business ethics can place current technology challenges into perspective by considering the history of business and markets behaving outside the norms, and the corrections made over time. For example, the online content industry's claim that changes to the digital marketing ecosystem will kill the industry echoes claims made by steel companies fighting environmental regulation in the 1970s (IAB 2017; Lomas 2019). Complaints that privacy regulation would curtail

innovation echo the automobile industry's complaints about safety regulation in the 1970s. Here we highlight two areas where business ethics' understanding of the historical balance between industry desires and pro-social regulation can offer insights on the ethical analysis of technology.

Human Autonomy and Manipulation

There are a host of market actors impacted by the rise of digital technology. Consumers are an obvious case. What we buy and how our identities are created through marketing is, arguably, ground zero for many of the ethical issues discussed by the articles in this symposium. Recent work has begun to examine how technology can undermine the autonomy of consumers or users. For example, many games and online platforms are designed to encourage a dopamine response that makes users want to come back for more ("Technology Designed for Addiction" n.d.). Similar to the high produced by gambling [machines for which have long been designed for maximum addiction (Schüll 2014)], games and social media products encourage users to seek the interaction's positive feedback to the point where their lives can be disrupted. Through addictive design patterns, technology firms create a vulnerable consumer (Brenkert 1998). Addictive design manipulates consumers and takes advantage of human proclivities to threaten their autonomy.

A second example of manipulation and threatened autonomy is the use of aggregated consumer data to target consumers. Data aggregators can frequently gather enough information about consumers to infer their concerns and desires, and use that information to narrowly and accurately target ads. By pooling diverse information on consumer behavior, such as location data harvested from a phone and Internet browsing behavior tracked by data brokers, consumers can be targeted in ways that undermine individuals' ability to make a different decision (Susser et al. 2019). If marketers infer you are worried about depression based on what you look up or where you go, they can target you with herbal remedies. If marketers guess you are dieting or recently stopped gambling, they can target you with food or casino ads. Business ethics has a long history of examining the ways that marketing strategies target vulnerable populations in a manner that undermines autonomy. A newer, interesting twist on this problem is that these tactics have been extended beyond marketing products into politics and the public sphere. Increasingly, social media and digital marketing platforms are being used to inform and sway debate in the public sphere. The Cambridge Analytica scandal is a well-known example of the use of marketing tactics, including consumer profiling and targeting based on social media data, to influence voters. Such tactics have serious implications for autonomy, because individuals' political choices

can now be influenced as powerfully as their purchasing decisions.

More generally, the articles in this symposium help us understand how the creation and implementation of new technology fits alongside the other pressures experienced within businesses. The articles give us lenses on the relationship between an organization's culture—its values, processes, commitments, and governance structures—and the challenge of developing and deploying technology in a responsible fashion. There has been some work on how individual developers might or might not make ethical decisions, but very little work on how pressures from organizations and management matter to those decisions. Recent work by Spiekermann et al., for example, set out to study developers, but discovered that corporate cultures around privacy had large impacts on privacy and security design decisions (Spiekermann et al. 2018). Studying corporate cultures of ethics, and the complex motivations that managers, in-house lawyers and strategy teams, and developers bring to ethical decision making, is an important area in business ethics, and one upon which the perspectives collected here shed light.

Trust

Much of the current discussion around AI, big data, algorithms, and online platforms centers on trust. How can individuals (or governments) trust AI decisions? How do online platforms reinforce or undermine the trust of their users? How is privacy related to trust in firms and trust online? Trust, defined as someone's willingness to become vulnerable to someone else, is studied at three levels in business ethics: an individual's general trust disposition, an individual's trust in a specific firm, and an individual's institutional trust in a market or community (Pirson et al. 2016). Each level is critical to understanding the ethical implications of technology. Trust disposition has been found to impact whether consumers are concerned about privacy: consumers who are generally trusting may have high privacy expectations but lower concerns about bad acts by firms (Turow et al. 2015).

Users' trust in firms can be influenced by how technology is designed and deployed. In particular, design may inspire consumers to overly trust particular technologies. This problem arguably creates a fourth level of trust unique to businesses developing new digital technologies. More and more diagnostic health care decisions, for example, rely upon automated data analysis and algorithmic decision making. Trust is a particularly pressing topic for such applications. Similar concerns exist for autonomous systems in domains such as financial services and transportation. Trust in AI is not simply about whether a system or decision making process will "do" what it purportedly states it will do; rather, trust is about having confidence that when the system does something that we do not fully understand, it will

nevertheless be done in a manner that supports in our interests. David Danks (2016) has argued that such a conception of trust moves beyond mere predictability—which artificial intelligence, by definition, makes difficult—and toward a deeper sense of confidence in the system itself (cf. LaRosa and Danks 2018). Finally, more work is needed to identify how technology—e.g., AI decisions, sharing and aggregating data, online platforms, hyper-targeted ads—impact consumers’ institutional trust online. Do consumers see questionable market behavior and begin to distrust an overall market? For example, hearing about privacy violations—the use of a data aggregator—impacts individuals’ institutional trust online and makes consumers less likely to engage with market actors online (Martin 2019). The study of technology would benefit from the ongoing conversation about trust in business ethics.

Stakeholder Relations

Technology firms face difficult ethical choices in their supply chain and how products should be developed and sold to customers. For example, technology firms such as Google and Microsoft are openly struggling with whether to create technology for immigration and law enforcement agencies and U.S and international militaries. Search engines and social networks must decide the type of relationship to have with foreign governments. Device companies must decide where gadgets will be manufactured, under what working conditions, and where components will be mined and recycled.

Business ethics offers a robust discussion about whether and how to prioritize the interests of various stakeholders. For example, oil companies debate whether and how to include the claims of environmental groups. Auto companies face claims from unions, suppliers, and shareholders and must navigate all three simultaneously. Clothing manufacturers decide who to partner with for outsourcing. So when cybersecurity firms consider whether to take on foreign governments as clients, their analysis need not be completely new. An ethically attuned approach to cybersecurity will inevitably face the difficult choice of how technology, if at all, should be limited in development, scope, and sale. Similarly, firms developing facial recognition technologies have difficult questions to ask about the viability of those products, if they take seriously the perspective of stakeholders who may find those products an affront to privacy. More research in the ethics of new digital technology should utilize existing work on the ethics of managing stakeholder interests to shed light on the manner in which technology firms should appropriately balance the interests of suppliers, financiers, employees, and customers.

How Technology Ethics Informs Business

Just as business ethics can inform the study of recent challenges in technology ethics, scholars who have studied technology, particularly scholars of sociotechnical systems, can add to the conversation in business ethics. Scholarship in values in design—how social and political values become design decisions—can inform discussions about ethics within firms that develop new technologies. And research in the ethical implications of technology—the social impacts of deployed technologies—can inform discussions of downstream consequences for consumers.

Values in Design

Values in design (ViD) is an umbrella term for research in technology studies, computer ethics, human–computer interaction, information studies, and media studies that focuses on how human and social values ranging from privacy to accessibility to fairness get built into, or excluded from, emerging technologies. Some values in design scholarship analyzes technologies themselves to understand values that they do, or don’t, support well (Brey 2000; Friedman and Nissenbaum 1996; Winner 1980). Other ViD scholars study the people developing technologies to understand their human and organizational motivations and the ways those relate to design decisions (Spiekdermann et al. 2018; JafariNaimi et al. 2015; Manders-Huits and Zimmer 2009; Shilton 2018; Shilton and Greene 2019). A third stream of ViD scholarship builds new technologies that purposefully center particular human values or ethics (Friedman et al. 2017).

Particularly relevant to business ethics is the way this literature examines how both individually and organizationally held values become translated into design features. The values in design literature points out that the material outputs of technology design processes belong alongside policy and practice decisions as an ethical impact of organizations. In this respect, the values one sees in an organization’s culture and practices are reflected in its approach to the design of technology, either in how that technology is used or how it is created. Similarly, an organization’s approach to technology is a barometer of its implicit and explicit ethical commitments. Apple and Facebook make use of similar data-driven technologies in providing services to their customers; but *how* those technologies are put to use—within what particular domain and for what purpose—exposes fundamental differences in the ethical commitments to which each company subscribes. As Apple CEO Tim Cook has argued publicly, unlike Facebook, Apple’s business model does not “traffic

in your personal life” and will not “monetize [its] customers” (Wong 2018). How Facebook and Apple managers understand the boundaries of individual privacy and acceptable infringements on privacy is conveyed in the manner in which their similar technologies are designed and commercialized.

Ethical Implications of Technology and Social Informatics

Technology studies has also developed a robust understanding of technological agency—how technology acts in the world—while also acknowledging the agency of technology users. Scholars who study the ethical implications of technology and social informatics focus on the ways that deployed technology reshapes power relationships, creates moral consequences, reinforces or undercuts ethical principles, and enables or diminishes stakeholder rights and dignity (Martin forthcoming; Kling 1996). Importantly, technology studies talks about the intersecting roles of material and non-material actors (Latour 1992; Law and Callon 1988). Technology, when working in concert with humans, impacts who does what. For example, algorithms influence the delegation of roles and responsibilities within a decision. Depending on how an algorithm is deployed in the world, humans working with their results may have access to the training data (or not), understand how the algorithm reached a conclusion (or not), and have an ability to see the decision relative to similar decisions (or not). Choices about the delegation of tasks between algorithms and individuals may have moral import, as humans with more insight into the components of an algorithmic decision may be better equipped to spot systemic unfairness. Technology studies offers a robust vocabulary for describing where ethics intersect with technology, ranging from design to deployment decisions. While business includes an ongoing discussion about human autonomy as noted above, technology studies adds a conversation about technological agency.

Navigating the Special Issue

The five papers that comprise this thematic symposium range in their concerns from AI and the future of work to big data to surveillance to online cooperative platforms. They explore ethics in the deployment of future technologies, ethics in the relationship between firms and their workers, ethics in the relationship between firms and other firms, and ethical governance of technology use within a firm. All five articles place the responsibility for navigating these difficult ethical issues directly on firms themselves.

Technology and the Future of Employment

Tae Wan Kim and Allan Scheller-Wolf raise a number of important issues related to technologically enabled job automation in their paper “Technological Unemployment, Meaning in Life, Purpose of Business, and the Future of Stakeholders.” They begin by emphasizing what they call an “axiological challenge” posed by job automation. The challenge, simply put, is that trends in job automation (including in manufacturing, the service sector and knowledge-based professions) will likely produce a “crisis in meaning” for individuals. Work—apart from the economic means that it provides—is a deep source of meaning in our lives and a future where work opportunities are increasingly unavailable means that individual citizens will be deprived of the activities that heretofore have defined their social interactions and given their life purpose. If such a future state is likely, as Kim and Scheller-Wolf speculate, what do we expect of corporations who are using the automation strategies that cause “technological unemployment”?

Their answer to this question is complicated, yet instructive. They argue that neither standard shareholder nor stakeholder conceptions of corporate responsibility provide the necessary resources to fully address the crisis in meaning tied to automation. Both approaches fall short because they conceive of corporate responsibility in terms of what is owed to the constituencies that make up the modern firm. But these approaches have little to say about whether there is any entitlement to employment opportunities or whether society is made better off with employment arrangements that provide meaning to individual employees. As such, Kim and Scheller-Wolf posit that there is a second, “teleological challenge” posed by job automation. The moral problem of a future without adequate life-defining employment is something that cannot straightforwardly be answered by existing conceptions of the purpose of the corporation.

Kim and Scheller-Wolf encourage us to think about the future of corporate responsibility with respect to “technological unemployment” by going back to the “Greek agora,” which they take to be in line with some of the premises of stakeholder theory. Displaced workers are neither “employees” nor “community” members in the standard senses of the terms. So, as in ancient Greece, the authors imagine a circumstance where meaningful social interactions are facilitated by corporations who offer “university-like” communities where would-be employees and citizens can participate and collectively deliberate about aspects of the common good, including, but not limited to, how corporations conduct business and how to craft better public policy. This would add a new level of “agency” into their lives and allow them to play an integral role in how business takes place. The restoration of this agency allows individuals to maintain another important sense of meaning in their lives,

apart from the work that may have helped define their sense of purpose in prior times. This suggestion is proscriptive and, at times, seems idealistic. But, as with other proposals, such as the recent discussion of taxing job automation, it is part of an important set of conversations that need to be had to creatively imagine the future in light of technological advancement (Porter 2019).

The value in this discussion, which frames a distinctive implication for future research, is that it identifies how standard accounts of corporate responsibility are inadequate to justify responsibilities to future workers displaced by automation. It changes the way scholars should understand meaningful work beyond meaning *at* work to meaning *in place* of work and sketches an alternative to help build a more comprehensive social response to changing nature of employment that technology will steadily bring.

Technology and Human Well-Being

Aurelie Leclercq-Vandelannoitte's "Is Employee Technological 'Ill-Being' Missing From Corporate Responsibility? The Foucauldian Ethics of Ubiquitous IT Uses in Organizations" explores the employment relationship more conceptually by introducing the concept of "technological ill-being" with the adoption of ubiquitous information technology in the workplace. Leclercq-Vandelannoitte defines technological ill-being as the tension or disconnect between an individual's social attributes and aspirations when using modern information technology (IT) and the system of norms, rules, and values within the organization. Leclercq-Vandelannoitte asks a series of research questions as to how technological ill-being is framed in organizations, the extent to which managers are aware of the idea, and who is responsible for employees' technological ill-being.

Leclercq-Vandelannoitte leverages Foucauldian theory and a case study to answer these questions. Foucault offers a rich narrative about the need to protect an individual's ability to enjoy "free thought from what it silently thinks and so enable it to think differently" (Foucault 1983, p. 216). The Foucauldian perspective offers an ethical frame by which to analyze ubiquitous IT, where ethics "is a practice of the self in relation to others, through which the self endeavors to act as a moral subject." Perhaps most importantly, the study, through the lens of Foucault, highlights the importance of self-reflection and engagement as necessary to using IT ethically. An international automotive company provides a theoretically important case of the deployment of ubiquitous IT contemporaneous with strong engagement with corporate social responsibility. The organization offers a unique case in that the geographically dispersed units adopted unique organizational patterns and working arrangements for comparison.

The results illustrate that technological ill-being is not analyzed in broader CSR initiatives but rather as "localized, individual, or internal consequences for some employees." Further, the blind spot toward employees' ill-being constitutes an abdication of responsibility, which benefits the firm. The paper has important implications for the corporate responsibility of organizations with regard to the effects of ubiquitous IT on employee well-being—an underexamined area. The author brings to the foreground the value-ladenness of technology that is deployed within an organization and centers the conversation on employees in particular. Perhaps most importantly, ethical self-engagement becomes a goal for ethical IT implementation and a critical concept to understand technological ill-being. Leclercq-Vandelannoitte frames claims of "unawareness" of the value-laden implications of ubiquitous IT as "the purposeful abdication of responsibility" thereby placing the responsibility for technological ill-being squarely on the firm who deploys the IT. Future work could take the same critical lens toward firms who sell (rather than internally deploy) ubiquitous IT and their responsibility to their consumers.

Technology and Governance

Richard Owen and Keren Naa Abeka Arthur's "A Micro-Ethnographic Study Of Big Data—Based Innovation In The Financial Services Sector: Governance, Ethics And Organisational Practices" uses a case study of a financial services firm to illustrate how organizations might responsibly govern their uses of big data. This topic is timely, as firms in numerous industries struggle to self-regulate their use of sensitive data about their users. The focus on how a firm achieves ethics-oriented innovation is unusual in the literature and provides important evidence of the factors that influence a firms' ability to innovate ethically.

The authors describe a company that governs its uses of big data on multiple levels, including through responses to legislation, industry standards, and internal controls. The authors illustrate the ways in which the company strives for ethical data policies that support mutual benefit for their stakeholders. Though the company actively uses customer data to develop new products, the company's innovation processes explicitly incorporate both customer consent mechanisms, and client and customer feedback. The company also utilizes derived, non-identifiable data for developing new insights and products, rather than using customers' identifiable data for innovation. The authors describe how national regulation, while not directly applicable to the big data innovations studied, guided the company's data governance by creating a culture of compliance with national data privacy protections. This has important consequences for both regulators and consumers. This finding implies that what the authors refer to as "contextual" legislation—law

that governs other marginally related data operations within the firm—can positively influence new innovations, as well. The authors write that contextual data protection legislation was internalized by the company and “progressively embedded” into future innovation.

The authors also found that company employees directly linked ethical values with the success of the company, highlighting consumer trust as critical to both individual job security and organizational success. This finding speaks to the importance of corporate culture in setting the values incorporated into technology design. Owen & Arthur use the company’s practices as a case study to begin to define ethical and responsible financial big data innovation. Their evidence supports frameworks for responsible innovation that emphasize stakeholder engagement, anticipatory ethics, reflexivity on design teams, and deliberative processes embedded in development practice.

Technology and Personal Integrity

Ulrich Leicht-Deobald and his colleagues unpack the responsibilities organizations have to their workers when adopting and implementing new data collection and behavior analysis tools in “The Challenges of Algorithm-based HR Decision-making for Personal Integrity.” It unites theory from business ethics and the growing field of critical algorithm and big data studies to study the topical issue of algorithmic management of workers by human resource departments. The authors focus on tools for human resources decision making that monitor employees and use algorithms and machine learning to make assessments, such as algorithmic hiring and fraud monitoring tools. The authors argue that, in addition to well-documented problems with bias and fairness, such algorithmic tools have the potential to undermine employees’ *personal integrity*, which they define as consistency between convictions, words, and actions. The authors argue that algorithmic hiring technologies threaten a fundamental human value by shifting employees to a compliance mindset. Their paper demonstrates how algorithmic HR tools undermine employees’ personal integrity by encouraging blind trust in rules and discouraging moral imagination. The authors argue that the consequences of such undermining include increased information asymmetries between management and employees. The authors classify HR decision making as an issue of corporate responsibility and suggest that companies that wish to use predictive HR technologies must take mitigation measures. The authors suggest participatory design of algorithms, in which employees would be stakeholders in the design process, as one possible mitigative tactic. The authors also advocate for critical data literacy for managers and workers, and adherence to private regulatory regimes such as the Association

of Computing Machinery’s (ACM) code of ethics and professional conduct and the Toronto Declaration of Machine Learning.

This paper makes an important contribution to the scoping of corporate responsibility for the algorithmic age. By arguing that companies using hiring algorithms have a moral duty to protect their workers’ personal integrity, it places the ethical dimensions of the design and deployment of algorithms alongside more traditional corporate duties such as responsibility for worker safety and wellness. And like Owen and Arthur, the authors believe that attention to ethics in design—here framed as expanding employees’ capacity for moral imagination—will open up spaces for reflection and ethical discourse within companies.

Technology and Trust

Livia Levine’s “Digital Trust and Cooperation with an Integrative Digital Social Contract” focuses on digital business communities and the role of the members in creating communities of trust. Levine notes that digital business communities, such as online markets or business social networking communities, have all the markers of a moral community as conceived by Donaldson and Dunfee in their Integrative Social Contract Theory (ISCT) (Donaldson and Dunfee 1999): these individuals in the community form relationships which generate authentic ethical norms. Digital business communities, on the other hand, differ in that participants cannot always identify each other and do not always have the legal or social means to punish participant businesses who renege on the community’s norms.

By identifying the hypernorm of “the efficient pursuit of aggregate economic welfare,” which would transcend communities and provide guidance for the development of micronorms in a community, Levine then focuses on trust and cooperation micronorms. Levine shows that trust and cooperation are “an instantiation of the hypernorm of necessary social efficiency and that authentic microsocial norms developed for the ends of trust and cooperation are morally binding for members of the community.” Levine uses a few examples, such as Wikipedia, open-source software, online reviews, and Reddit, to illustrate micronorms at play. In addition, Levine illustrates how the ideas of community and moral free space should be applied in new arenas including online.

The paper has important implications for both members of the social contract community and platforms that host the community to develop norms focused on trust and cooperation. First, the idea of community has traditionally been applied to people who know each other. However, Levine makes a compelling case as to why community can and should be applied for groups online of strangers—strangers in real life, but known online. Future research could

explore the responsibilities of platforms who facilitate or hinder the development of authentic norms for communities on their service. For example, if a gaming platform is seen as a community of gamers, then what are the obligations of the gaming platform to enforce hypernorms and support the development of authentic micronorms within communities? Levine's approach opens up many avenues to apply the ideas behind ISCT in new areas.

While each discussion in this symposium offers a specific, stand-alone contribution to the ongoing debate about the ethics of the digital economy, the five larger themes addressed by the articles—the future of employment, personal identity and integrity, governance and trust—will likely continue to occupy scholars' attention for the foreseeable future. More importantly, the diversity of theoretical perspectives and methods represented within this issue is illustrative of the how the ethical challenges presented by new information technologies are likely best understood through continued cross-disciplinary conversations with engineers, legal theorists, philosophers, organizational behaviorists, and information scientists.

Compliance with Ethical Standards

Animal and Human Rights The authors conducted no research on human participants or animals.

Conflict of interest The authors declare that they have no conflict of interest.

Informed Consent The authors had no reason to receive informed consent (no empirical research).

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Technological Unemployment, Meaning in Life, Purpose of Business, and the Future of Stakeholders

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Abstract

We offer a precautionary account of why business managers should proactively rethink about what kinds of automation firms ought to implement, by exploring two challenges that automation will potentially pose. We engage the current debate concerning whether life without work opportunities will incur a meaning crisis, offering an argument in favor of the position that if technological unemployment occurs, the machine age may be a structurally limited condition for many without work opportunities to have or add meaning to their lives. We term this *the axiological challenge*. This challenge, if it turns out to be persuasive, leads to a second challenge, to which managers should pay special attention: *the teleological challenge*, a topic especially relevant to the broad literature about corporate purpose and governance. We argue that both the shareholder profit-maximization model and its major alternative, stakeholder theory, are insufficient to address the meaning crisis. Unless rebutted, the two challenges compel business leaders to proactively rethink the purpose of business for future society. Otherwise, businesses will be contributors to a major ethical crisis and societal externality in the coming society.

Keywords Automation · Meaning of work · Stakeholder

I think everybody should be a machine.
—Andy Warhol.

Whether one agrees with Andy Warhol or not, there is no denying that the relationship between people and machines—more specifically workers and machines—is rapidly evolving. And as this evolution unfolds, it is yet to be determined whether the two groups will find a mutualistic equilibrium, or whether machines will emerge as dominant in the workplace, greatly diminishing, if not essentially extinguishing, the role of workers. As we write this, businesses are automating workplaces with advanced technologies, including but not limited to driverless cargo trucks,

artificially intelligent mortgage approvals, machine learning-based paralegals, and algorithmic managers. Such technological advancement raises a host of normative questions (Bhargava and Kim 2017; Hooker and Kim 2018; Martin 2016; Parmar and Freeman 2016). As Thomas Donaldson recently remarked, “It’s an instance of a problem that more sophisticated engineering cannot solve, and that requires a more sophisticated appeal to values” (Ufberg 2017).

One normative question to which has been paid much public attention is whether the government ought to offer a basic income to everyone if robots take over human jobs on an unprecedented scale in the near future (Ito et al. 2016; Van Parijs 2004), often-called “the second machine age” (Brynjolfsson and McAfee 2014). Although this is an important public policy question, its seeming focus on the government as the sole agent responsible for mitigating societal problems can obscure questions about the role and accountability that businesses themselves should accept, especially regarding workplace automation and its potential impact upon unemployment.¹ For example, it could lead one to

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¹ We use the terms “accountability” almost interchangeably with “role” or “responsibility.” Our uses of “accountability” are close to Scanlon’s (1998) uses of his term “substantive responsibility,” when

the conclusion that if a new governmental (re)distributive scheme proved satisfactorily useful in reinforcing the material conditions for a just and decent society in the coming machine age, managers should have no reason to hesitate in maximizing automation. Putting aside the practical reasons not to be “that sanguine about the efficiency of the political process” and the idea that “government cannot be relied on to solve all problems, thus leaving a role for private action, including at the corporate level” (Hart and Zingales, unpublished manuscript), there are other, equally fundamental questions. Specifically, as a matter of principle, the fact that a government may be able to fix problems does not mean that firms are warranted in creating these problems in the first place. Moreover, even if a government can ensure a basic level of material comfort of its citizens, there are other negative effects that may arise from the forecast machine age that merit investigation, effects that may not be ameliorated by a governmental stipend. We offer a precautionary account of why business managers and all other relevant parties have reason to proactively rethink how much automation and what kinds of automation firms ought to implement in the coming decades, focusing on two challenges that workplace automation will potentially pose.

Two Challenges

A current public debate concerns whether life without work opportunities but with some novel kind of (re)distributive scheme (e.g., a basic income guarantee) will or will not incur a meaning crisis in the coming machine age (Danaher 2017; Floridi 2014). Given the resources on the good organizational life and its role for meaning (Alzola 2012; Bowie 1990; Ciulla 2000; Hartman 1996; Hsieh 2008; Michaelson 2005; Moriarty 2009; Sison 2015; Solomon 1992a, b), normative business ethics can contribute to this debate. This article in its first part engages with this debate by offering an argument in favor of the position that if massive unemployment occurs in the second machine age, the coming age may be a structurally limited and systematically uncondusive condition for many without work opportunities to have or add meaning to their lives, which we shall explain under the name of *the axiological challenge*.

Let us be clear up-front. We certainly do not contend that a universal basic income is wrong or harmful. A central argument developed in favor of a basic income guarantee is not just that it has the power to address poverty, but

Footnote 1 (continued)

he writes, “[t]o understand the conditions of responsibility in the first sense [responsibility as attributability] we need to consider the nature of moral appraisal, praise and blame. Judgments of responsibility in the second sense [substantive responsibility], by contrast, are substantive conclusions about what we owe to each other.”

that, with a basic income, workers obtain the bargaining power not to accept work that does not satisfy conditions for meaningful work (Van Parijs 1992; Hsieh 2008). This argument in itself presupposes the meaning-creating aspect of work, which is central to our argument: In the coming machine age, potentially much of the population will no longer have job opportunities, meaningful or otherwise. Hence, the question of a basic income is itself consistent with this article’s concern about the looming meaning crisis.

The axiological challenge, if it turns out to be persuasive or at least plausible, we shall argue, necessarily leads to the second challenge, to which the field of business ethics has particular resources to contribute. It is what we shall call *the teleological challenge*, a topic especially relevant to the broad literature in business ethics and other relevant disciplines that attempt to answer E. Merrick Dodd’s (1932) question, “For whom corporate managers are trustees?” (see also Donaldson and Walsh 2015; Freeman 1984; Friedman 1970; Jensen 2002; Stout 2002; Smith, unpublished manuscript; Strudler 2017). By clarifying the connections between the coming machine age and the teleological challenge, we encourage other authors in business ethics to pay more attention to the second machine age. As we shall explain, the challenge exposes insufficiencies in the shareholder/financier model (Boatright 1994; Jensen 2002). Its major alternative view, the stakeholder theory (Freeman 1984; Parmar et al. 2010), as it is, will not be good enough to address the axiological challenge, unless the theory actively embraces a new kind of stakeholder group who is neither worker nor community. This challenge compels business leaders to proactively rethink the role and overall purpose of firms for future society.

To discuss the implications of the axiological challenge upon corporate purpose, we first introduce the projected nature of technological unemployment. Then, we offer a precautionary account of the axiological challenge. Finally, we discuss the teleological challenge to corporate purpose.

When Robots Take Over

In 1930, John Maynard Keynes conjectured that in one hundred years, society would be at odds with technology. He wrote,

We are being afflicted with a new disease of which some readers may not yet have heard the name, but of which they will hear a great deal in the years to come—namely, *technological unemployment*. This means unemployment due to our discovery of means of economizing the use of labour outrunning the pace

at which we can find new uses of labour (Keynes 1963/1930, p. 364).

Lately, a growing number of reports assert that Keynes's prediction will be true in two or three decades. According to the *Oxford Martin Programme on the Impacts of Future Technology* (Frey and Osborne 2013), 47% of the total U.S. employment will likely be automated over the coming 20 years. Similarly, the World Bank anticipates that around 65% of jobs in developing countries are at risk of automation (World Bank Group 2016). A *McKinsey* report predicts that "as many as 45% of the activities individuals are paid to perform can be automated by adapting currently demonstrated technologies" (Chui et al. 2015). And the *Economic Report of the President to the Congress* (2016) predicts that the probability of robots taking over the lowest-paid jobs (hourly wage less than 20 dollars) in the coming decades is 0.83, the middle-paid jobs, 0.31, and the highest-paid jobs (more than 40 dollars), 0.04.

From well before the time of Keynes, technological innovation has been pushing workers out of the workplace. During the Industrial Revolution, a great number of textile workers lost jobs with the introduction of simple machines. The invention of tractors rendered many farm jobs obsolete. Owing to personal computers, we no longer see typists. Nevertheless, economic history reveals that, thus far and in aggregate at least, technological unemployment is a temporary adjustment: The dynamic nature of capitalism has always leveraged technology to create more new jobs than those that were lost, through increased wages and elevated demand for new products. A dominant view in labor economics is that, in the long run, technological innovation creates more (human) jobs than it destroys in the overall economy (Autor 2015). To deny this is to commit the so-called "Luddite fallacy."²

In contrast, others, including two MIT economists, Brynjolfsson and McAfee (2014, 2015, 2016), contend that although the Luddite fallacy has inaccurately explained past economic history, this won't necessarily be the case in the coming age of advanced robots. Their primary rationale, among others, is as follows: when people lose jobs as a result of new technology, they need to learn and hone the new skills necessary to be reemployed, a process that can take months or even years. In the coming machine age, given the exponential speed of technological development and its rapidly-expanding scope of application, robots and smart systems equipped with the power of machine learning and big data will learn the necessary skills for newly created jobs

far faster than humans; as a result, advanced machines will take new jobs before humans are ready. Then, only robots need apply.

Work that involves more explicit and quantifiable rules is more easily codifiable, hence more likely to be automated than work that involves tacit, personal, and unquantifiable knowledge (e.g., judgment, critical thinking, persuasion) (Autor 2015). An example of the former is mass manufacturing. Foxconn, a company that assembles iPhones and iPads in China, recently installed about 10,000 robots, each of which costs \$20,000, for spraying, welding, and assembly. Terry Gou, CEO of Foxconn, proclaimed his plan for automation, saying, "We have over one million workers. In the future we will add one million robotic workers. Such a change, of course, will massively impact human jobs" (Davidow and Malone 2014).

The distinction between more easily and less easily codifiable work is quickly blurring: A wide range of cognitive tasks that could not be codified in the past can now; this increase in codifiable tasks will likely continue, transforming more jobs into work that can be done by advanced algorithms. For example, in 2005, Levy and Murnane in *The New Division of Labor: How Computers Are Creating the Next Job Market* stated that computing systems have fundamental difficulties replicating the dexterous human perception and manipulation required for driving cars. Yet in 2010, Google introduced a driverless Toyota Prius. And in 2016, Uber started testing operation of self-driving services. This means that human Uber drivers, taxi drivers, and, similarly, truck drivers are at serious risk of losing jobs. A senior executive of FedEx, who was recently asked whether the company would replace human drivers with self-driving trucks, answered, "Well, not on the local routes" (Davenport and Kirby 2016). Advanced robots increasingly threaten white-collar jobs, too, including junior law and paralegal jobs, as well as jobs in radiology, anesthesiology, and translation—all of which had until recently been thought to involve uncodifiable capabilities (Finley 2015; Frankish and Ramsey 2014; Müller 2016; Remus and Levy 2017; Shankland 2016).

A disclaimer is important here: It is extremely difficult to precisely predict the future, and it is *not* our aim to empirically predict how much of the labor force will actually be replaced with machines, and in what timeframe. For our purposes, suffice it to say that there will be a second machine age, and this article addresses the *normative* questions inherent in this possible future, questions to which we will turn presently.

² Textile workers who lost jobs due to machines during the Industrial Revolution attacked mills under the leadership of a supposedly mystical figure called Ned Ludd. The workers in the riots were called "Luddites" (Jones 2006).

The Paradox in the Era of Abundance: The Axiological Challenge

Many participants in recent public discussions about the coming workforce transformation focus only on the *economic* sustenance of displaced workers in our envisioned future society; there is a consensus on the need for a proper (re)distributive scheme to ensure societal stability. This will be some form of a basic income guarantee, usually defined as “an income paid by a political community to all its members on an individual basis, without means test or work requirement” (Van Parijs 2004, p. 8). In a similar manner, a “negative income tax” (people whose income is below some amount receive cash from the government instead of paying taxes), which differs from a basic income in specifics but shares many things in common, has also been proposed (Friedman 1962).³ We will not discuss the specific differences or merits of a basic income or a negative income tax, or which is the best way to address the potential economic repercussions of future technological unemployment. Although some form of a basic income guarantee may be necessary to help stabilize society in the face of the foreseen massive wave of technological unemployment, it may not be sufficient: It is another question altogether whether the second machine age—even if we assume it includes a solution to poverty and basic welfare problems—would be a satisfactory and fulfilling societal structure for those who systematically lack work opportunities. Will material security be accompanied by a crisis of meaning? This is the very question to which we move now.

For the sake of argument, allow us to imagine that we are living in the 2040s with some form of universal basic income; we will use this hypothetical as an intuition pump. Add some minimal features to this imagined society: Given that the employment-to-working age population ratio in the U.S. is currently about 60%⁴ and most of the forecasts mentioned in the previous section predicted that the *net loss* (accounting for any job creation due to the technology) of existing employment to robotic workers would be around 50% in the coming two decades, let us roughly imagine that in 2040s in the U.S., only 35%⁵ of the working-age

population is employed in paid jobs, broadly defined. With this shift in employment let us imagine further that the mere *prospect* of employment has become increasingly remote for large segments of the population—possibly even a majority. Adding the fact that business enterprises have dramatically increased operational efficiency due to massive automation and as a result have enhanced corporate profits greatly, presume that it is with aggrandized tax revenue that the government offers a basic income to every citizen. With the provided cash, the unemployed citizens are able to buy food, pay rent or a mortgage, and within reason fund whatever activities they want to do (e.g., art, surfing, traveling, voluntary work, gambling, watching TV on the sofa, etc.). Following Keynes (1963/1930), let us call this societal circumstance “the era of abundance.”⁶

There do exist criticisms about a universal basic income guarantee, specifically regarding its economic feasibility and fairness (Barry 2000; Cunliffe and Erreygers 2003). But this is a distraction from our primary question: Our aim is not to evaluate whether a basic income itself is a bad idea. Rather, the claim to be made is that something other than a basic income is needed in the era of abundance to ensure a generally fulfilling life for many members of society. Citizens will receive money whether they work or not, but something important may still be missing in the era of abundance. And that something may be meaning in life.

Discussing meaning in life and its relationship to work opportunities is not like answering arithmetic questions. Furthermore, work opportunities, as options to be part of economic cooperation and creating societal value, are neither a necessary, nor a sufficient condition for meaning. But, even if it is not impossible for one to live a meaningful life without gainful employment, the empowering role of work opportunities for meaning is a subject that society must consider in the coming machine age. We contend that we need to pay keener attention to the challenge of meaning in life, which in turn will lead us to fundamental questions of how to justify the very foundations of economic organizations in the coming machine age. To answer these questions we will

³ Friedrich A. Hayek also supported a basic income. Hayek (1981/1979, 5) writes, “The assurance of a certain minimum income for everyone, or a sort of floor below which nobody need fall even when he is unable to provide for himself, appears not only to be wholly legitimate protection against a risk common to all, but a necessary part of the Great Society...”

⁴ For details, see “Labor Force Statistics from the Current Population Survey” in the Bureau of Labor Statistics.

⁵ Although the reports already take into account job creation, to respectfully invite skeptics into our discussions, we add an additional 5% of job creation.

⁶ How much will be offered as a basic income, and what effect such universal payments might have on the economy and inflation are thorny questions. In any case, we do not think the amount would make much difference to our argument. If the reader desires details, we tentatively propose adding the statistic that everyone over 18 years old annually receives a fixed amount of cash equivalent to the value of, say, \$12,500 in 2017 and anyone under 18 receives a quarter of that amount (given that an often proposed amount of an annual basic income by advocates in the current public discussions in the U.S. is usually around \$10,000–13,000 per person; e.g., Murray 2016). As another possible benchmark, a recent proposal that would provide a basic monthly income of 2560 Swiss francs, or about \$2600, to every adult and 625 francs to those under 18, was submitted for a referendum. On June 5, 2016, the Swiss people rejected the proposal.

ultimately have to explore, and prescribe, entrepreneurial directions for future workplaces. But before we can do any of this we need a short excursion into the concept of “meaning in life” in general.

Meaning In Life

We draw upon Susan Wolf’s (1997a, b, 2007, 2010, 2014) “fitting-fulfillment view.” The view is a hybrid account that combines subjectivism and objectivism. Subjectivists believe that, roughly, a person’s life is meaningful if and only if she achieves whatever she subjectively sets as an end. Thus, subjectivism is value-neutral. Thus, subjectivism allows lives that include many kinds of undoubtedly worthless and ethically repugnant activities (e.g., crime) to be perfectly meaningful. Through the lens of subjectivism, we must admit that Hitler lived a perfectly meaningful life by massacring Jewish people, given that he set killing them as an end.⁷ In addition, if subjectivism were true, a person could live a perfectly meaningful life by plugging into, for instance, Robert Nozick’s (1968/1974) experience machines, which would give her any experiences she set as an end. Accordingly, the challenge of meaning in the era of abundance could be easily dissolved by developed technologies such as virtual reality and brain enhancing drugs. But this only shows another reason to reject pure subjectivism.

Objectivism is a proper reaction to the inherent problems of subjectivism. Metz (2013) well makes the point as follows:

[C]ertain features of our natural lives can make them meaningful, but not merely by virtue of a positive attitude toward them. [...] [A] life cannot matter simply by virtue of urinating in snow and chewing gum, however much those activities might be wanted or sought out. [...] There are forms of life that individuals sometimes fail to want or to pursue, but that they should if they want their lives to matter (20).⁸

The question, then, is who decides which forms of life are objectively worthwhile? The objectivist’s full-blown answer should address metaethical issues (e.g., Is value objective?).

But the moderate objectivist, for our purposes, can provide a simpler answer, taking a pluralist but not relativist or chauvinistic perspective about what constitutes forms of life activities worth pursuing, by borrowing a kind of contractualist framework: roughly, a form of life activity is objectively worthwhile and accordingly adds meaning to the author of the life (and possibly to other involved parties) in so far as the life activity is consistent with any minimum set of evaluative principles that no one could reasonably reject as a basis for an informed view about the intrinsic desirability of one’s life activity given the circumstances of one’s life.⁹ We can reasonably agree, for example, based on our shared (or overlapping) background evaluative values (e.g., widely accepted ethical values such as social utility, virtue, and agency), that the life of Jonas Salk, who dedicated his life to discovering polio vaccines, is worthwhile (to the extent that, e.g., his life enhanced social utility, strived to fulfill excellence, and/or consistently developed both rational and areteic agency) or that the life of Sisyphus, who was punished to permanently roll a boulder up a hill only to see it return to him with nothing changed, is not. While this definition may be imperfect (and in fact the question of how to precisely define meaning in life could be the subject of another entire paper, or set of papers), we believe it is functional enough to serve our larger purposes here. As a guiding evaluative principle that we believe no one could reasonably reject for our purposes, we will endorse “contribution” (to both society and agency)—that is, a form of life activity is meaning-creating if through the activity people are regularly empowered to enable agency as individual persons and fulfill, in concert as cooperators, contributions as broad as possible to the good of society.¹⁰ We will further elaborate this principle shortly.

Pure objectivism has its own problem, though. Imagine that Sisyphus is working for a green energy plant. He does not know that his actions generate electricity and thus contribute to society, so he believes he has been punished to permanently toil for no reason. Most of us would hesitate to call his life meaningful, with good reason. Something is missing. Sisyphus is producing some objectively good outcome, but he does not *fulfill* or *achieve* it. To address this, Wolf (2010, p. 26) in her hybrid view proposes, “[M]eaning arises when

⁷ We authors are extremely uncomfortable with using this example. We discussed whether to replace it. We opted to keep it, because the example exemplifies how we should be accordingly uncomfortable with subjectivism, in contrast to a commonly held view that meaningfulness of one’s life is always subjective.

⁸ In a similar vein, Kauppinen (2012, p. 356) writes “the Voluntarist [Subjectivist] view is far too permissive, once we remember to disambiguate the notion of a life being meaningful *for* someone. Just as a food can be unhealthy for a person even if she thinks it is healthy, a life can be meaningless for someone even if she thinks it is meaningful.”

⁹ There may be hard cases, but when those are cases of reasonably informed disagreements, the framework above submits that the form of life activity in the disagreement must be respectfully admitted as objectively worthy to the extent that no one could reasonably reject the informed argument in favor of the worthiness of the life.

¹⁰ Similarly, Ciulla (2000, pp. 225–226) writes: “Work has meaning *because* there is some good in it. The most meaningful jobs are those in which people directly help others or create products that make life better for people. Work makes life better if it helps others; alleviates suffering; eliminating difficult, dangerous, or tedious toil; makes someone healthier and happier; or aesthetically or intellectually enriches people and improves the environment in which we live.”

subjective attraction meets objective attractiveness and one is able to do something about it or with it.” She also uses “engagement” and “fulfillment” in addition to “subjective attraction.”¹¹ Hence, in the fitting-fulfillment view, as the name itself conveys, roughly, one’s life is meaningful insofar as one *fulfills* (values and engages) what is *fitting* (objectively worth pursuing). Armed with the fitting-fulfillment account, let us return to the challenge of meaning in the era of abundance. Our contention shall be as follows:

The axiological challenge (or paradox in the era of abundance): Many of those who do not have work opportunities in the era of abundance will likely live in quite systematically *limited* conditions for engaging in fulfilling activities inside economic and perhaps even non-economic spheres. Thus, those who structurally face lack of work opportunities will therefore likely encounter fairly un conducive conditions for having or adding meaning to their lives.

To support this, we develop two inter-related component claims as follows:

The contribution thesis: Work can be meaning-creating by providing people with platforms to participate in processes of collective value creation in which they are regularly empowered to enable agency, broadly construed, as individual persons and fulfill, in concert as cooperators, contributions as broad as possible to the good of society.

The non-glamorization thesis: Although it is possible for those who systematically lack work opportunities to contribute to society and gain meaning in, for instance, non-paid organized social/charitable work, it is irresponsible to romanticize that option or use it as a rationalization to dismiss the impact of lack of employment opportunities on our axiological challenge.

The Contribution Thesis

Let us begin the argument by discussing the thesis that work is cursed. If work is inherently bad, the absence of work is good and there the axiological challenge won’t exist (and automation will be the greatest thing to happen to humanity). Bertrand Russell (1932) seems to make such an argument:

I want to say, in all seriousness, that a great deal of harm is being done in the modern world by belief in

¹¹ In response to counter-examples to the fitting-fulfillment view, Evers and van Smeden (2016) proposed modifying Wolf’s account to replace “love” with “valuing.” We believe Wolf’s is already inclusive of the suggestion.

the virtuousness of work, and that the road to happiness and prosperity lies in an organized diminution of work...Leisure is essential to civilization, and in former times leisure for the few was only rendered possible by the labors of the many. But their labors were valuable, not because work is good, but because leisure is good.

We find nothing to disagree with. Russell’s point is to condemn the propaganda that work is so virtuous that people should work no matter how badly an employer treats them—and to propose that an antidote to the problem is more leisure for workers. Russell’s point is not inconsistent with our view that work is like exercise—it can be harmful when dysfunctionally done, but it can be good when properly done.¹²

One might try to refute our claim by pointing out that working for a for-profit firm in a competitive market economy does not automatically offer an opportunity to contribute to the good of society. We partially agree. However, the fact that for-profit firms’ direct goals are profit-making does not exclude the real possibility that market efficiency is pragmatically used as one of the proxies through which firms, indirectly, enhance intrinsically important social values. In this line of reasoning, Jeffrey Smith (unpublished manuscript) offers a compelling example as follows:

I am pressing the idea that market arrangements, as a matter of public policy, *serve* other, general social objectives...Pharmaceutical research and development is, to a significant degree, funded through private capital markets in the US. While there are sources of funding that come through public agencies, investment decisions about research and development are largely made by managers who are consciously aware of the need to maintain high profit margins to attract investors, given the comparatively high level of risk and uncertainty involved in pharmaceutical products without the use of price controls...In this case the aim of public health—or an important dimension to public health—is ostensibly realized by moving pharmaceu-

¹² Bernard Suits (2005) argues that work can never be meaning-creating and that game-playing is the only worthy activity. We take the message seriously, especially as we live in a workaholic society. Nevertheless, we maintain that Suits’ thesis is too strong. Not all cases of game playing are objectively meaningful (e.g., urinating in snow to melt it). Our argument submits that game playing or any activity is meaningful only if it realizes and contributes to self-development and the good of society. Thus, employed work, when it becomes a vehicle that empowers individuals to capably realize their agency and contribute to others, is meaning-creating. Consistently, Thomas Hurka, who wrote the introduction to Suits’ book, argues that economic activity is itself often a process of intrinsic value-creating activity in the modern life (Hurka & Suits, 1978). We are indebted to Joanne B. Ciulla for pressing us to discuss Suits’ work.

tical research, development and sales into the market (p. 13).

Pharmaceutical companies' *core* operations—developing and providing drugs and services to hospitals and patients—as Smith points out above, contribute to the good of society on a massive scale, on a regular basis. Furthermore, these core operations would be almost impossible without a number of participants' consistent financial investment, innovative research, and competitive efforts.¹³ Note, please, that we are not stating that for-profit economics is *necessary* for pharmaceutical (and consequent societal) advances, just that it is not inconsistent with those advances.

Of course, companies also contribute to society through non-market activities, say, Corporate Social Responsibility. For example, Merck's contribution to the good of society through its non-market plan, called the Mectizan Donation Program, has added much meaning to the lives of all involved parties, by providing them real opportunities to consistently engage in and pursue what is fitting, which would not have been achievable without the complex business and research capabilities of the pharmaceutical company in modern society.¹⁴ Note, however, that this donation program is only a fraction of the good that Merck contributes to society and that this program, too, would not be possible without the profits Merck generates.

Not just pharmaceutical companies, but most economic enterprises, big or small, aim (indirectly or directly) to develop unique capabilities to provide people with environments in which they are empowered to consistently fulfill significant contributions to the good of society. Christopher McMahon (2010) similarly points out that what can best explain and possibly justify for-profit businesses' competitive and self-interested market exchanges is how much they contribute to what he calls "morally important social values," such as the promotion of social prosperity, preservation of the health of the population, advancement of knowledge, development of culture, maintenance of the rule of the law, social justice, and defense of national territory.

Realistically, thus, in modern society, if one systematically lacks opportunities to be part of a well-coordinated

productive means or a cooperation-enhancing hierarchical and technological infrastructure, one systematically lacks much of the real opportunity to contribute to the economic process and to the good of society and its constituents in a consistently competitive, innovative, and workable manner. By working for a pharmaceutical company, for example, a person can become a "participant" in a chain of "collective value creation"¹⁵ to contribute to the good of society. Crucially, not just high-ranking positions, but many low-ranking jobs are essential for such an enterprise to successfully fulfill its roles and responsibilities to society. Those who occupy such stations play important roles in the productive cooperation chains and joint value creation. In their daily activities, these individuals may not always recognize their social contribution or the significance of their work opportunities to develop agency and excellence, and they are not always excited about every aspect of their daily work activities, but they have reason to value the fact that the core of their daily work and even its associated challenges have the fundamental potential to persistently empower them to pursue ends, including both self- and publicly oriented goals.¹⁶ The same logic can be applied to many other types of businesses and industries that contribute to the good of society and human existence.¹⁷

In addition, gainful employment offers involved persons opportunities to develop agency, broadly construed, in two distinct manners. Modern business is a series of promises such as making appointments, buying and selling, etc.—and promising is a paradigm of how one's rational agency coheres with another. Kantian legal scholar Charles Fried (1981) eloquently makes such a point:

By promising we put in another man's hands a new power to accomplish his will... What he sought to do alone he may now expect to do with our promised help, and to give him this new facility was our very purpose in promising. By promising we transform a choice that was morally neutral into one that is morally compelled. Morality, which must be permanent and beyond our particular will if the grounds for our willing are to be

¹³ Of course this is not to say that everything that pharmaceutical companies engage in can be seen as beneficial and meaningful. This point is actually immaterial to our argument—the axiological challenge does not require work that is invariably meaningful, but rather work that is *sufficiently* meaningful. The precise definition of sufficiently in this context is a difficult question and beyond the scope of this paper.

¹⁴ The venture was suggested by Dr. William Campbell—who discovered that a veterinary drug, once reformulated for humans, could easily cure onchocerciasis or "river blindness"—and executed by CEO P. Roy Vagelos to provide the drug to anyone who needed it for as long as it was needed, for free (Hanson & Weiss, 1991).

¹⁵ For a detailed analysis of "participant" in a chain of "collective value creation" see Donaldson and Walsh (2015).

¹⁶ Another salient example is provided by sanitation workers, who may be looked down upon in society due to the dirty nature of their work. But there are few other occupations that do more to ensure the public good or the public health.

¹⁷ Of course, paid employment is not the only form of work by which one can contribute to the good of society. Those who take care of housework and raise children significantly contribute to the good. We do not deny this at all. Instead, our argument is that for very many in society, paid employment is often the best potential option present for fulfillment.

secure, is itself invoked, molded to allow us better to work that particular will (p. 8).

Furthermore, employment offers a substantive exercise of reason-responsive agency. Given that firms are hierarchies governed by authorities (Coase 1937; Williamson 1975), high-ranking individuals who have authority have the managerial power and right to demand that low-ranking individuals follow their orders without giving specific reasons (Simon 1957; see also Smith, unpublished manuscript). But without a reason that low-ranking individuals can justifiably see as a reason, a managerial order is disrespectful of their reason-responsive agency (Kennedy et al. 2016). Thus, the reason-responsiveness aspect of agency demands that high-ranking individuals give a comprehensive (content-non-specific or on-balance) reason for authority. In other words, low-ranking individuals in the workplace are consistently invited to identify whether their authorities' orders are consistent with comprehensive reasons that they can reasonably accept on balance for obeying authorities. This contributes to their agency.

By participating in gainful employment, organizational persons are also encouraged to deepen areteic agency, by feeling pride, self-respect, self-esteem, and a sense of usefulness, and by developing personal identity, character traits, virtues, and excellence (Alzola 2012; Hartman 1996; Solomon 1992a, b). Virtue and excellence cannot be bought through a market exchange (Gheaus and Herzog 2016); instead, attaining them takes a significant amount of time and sustained effort, which is not easily attained outside a context wherein individuals are mutually encouraged and sometimes actively pushed to achieve them. Employment is one such context in which persons are regularly empowered to put sustained efforts into developing excellence and improving their personal skills such as knowledge and good judgement. Recently, a growing body of literature in political philosophy argues for meaningful work as a primary good (Breen 2016; Walsh 1994) or a basic capability for human flourishing (Gheaus and Herzog 2016; Veltman 2014, Yeoman 2014). In a similar vein, John Rawls changed his view on the role of work in self-respect from a value-neutral position to one which emphasized the realistic importance of employment for living a life with self-respect (Moriarty 2009).¹⁸

¹⁸ Moriarty (2009, 15), in his analysis of Rawls's works writes: "In identifying the OMW [the opportunity for meaningful work] as a social basis of self-respect in PL [*Political Liberalism*, paperback edition], Rawls abandons th[e] laissez-faire approach. His new view seems to be: we cannot merely hope that if people cannot find meaningful work, they can get self-respect from other activities, such as chess or softball... This has the effect of privileging the work association over other associations as a source of self-respect."

Of course, not all work opportunities in the real world involve objectively fitting activities and subjectively engaging conditions. There are business activities whose nature is inherently illegitimate or exploitative (slavery, human trafficking) and/or that coercively press people to work in systematically agency-diminishing conditions (Michaelson 2005; Schwartz 1982). An informed person has reason to recognize such paid jobs as not worth pursuing for reasons of both objective and subjective attractiveness. Nonetheless, it is a stretch to suggest that work is inherently bad and wrongful. Rather, it's undeniable that many kinds of work—performed by employed workers, entrepreneurs, professionals, university researchers, paid positions in non-profit organizations, and all other kinds of paid vocations—provide unique environments that empower individual persons to regularly develop agency and consistently contribute to the good of society, including essential capabilities for people to function as humans (Bowie 2014; Sen 1999).

The Non-Glamorization Thesis

It is important that we reiterate the fact that if a person has fundamental limitations in one sphere of life this does not mean that she has them in other spheres. No one in philosophy has done more to develop such an argument than Arneson (1987, 1990). He writes:

For one thing, there are ways to gain self-esteem other than job performance. Individuals can be dedicated to pursuing avocations, cultivating friendships, carrying out duties of family life in exemplary fashion, attaining some virtue or recognized excellence of achievement, or working in free time for a cause one respects. Any of these and many other projects can be sources of self-esteem obtainable independently of the quality of one's employment and on-the-job experiences (1990, p. 1132).

Self-esteem is not exactly equivalent to meaning in life,¹⁹ but Arneson could make a similar point about meaningful work—and we would not disagree with him.²⁰ We never asserted that work is *necessary* for a life to have purpose. Our contention is that gaining the opportunity to be part of a

¹⁹ As Nozick (1968/1974, 247) says, "The issue of meaningful and satisfying work is often merged with discussions of self-esteem... Such an individual, it is said, can take pride in what he's doing and in doing it well; he can feel that he is a person of worth, making a contribution of value."

²⁰ Arneson's primary claim in his broad project about meaningful work was a public policy thesis that there is no compelling argument for the government to intervene to increase the degree of meaningful work.

cooperative productive means in the realm of economic life in the modern society is often a major societal base by which individual persons can have real opportunities to contribute to the good of society. It also affords them the opportunity to consistently develop excellence, which altogether uniquely confers much of life's meaning to them.

If one accepts this premise, the era of abundance, in which a majority of the population may be systematically denied an opportunity to be part of collective value creation, will likely create a *significant loss* of opportunity to add meaning in life. We reiterate that this view is not inconsistent with the idea that those without work opportunities can find meaning in other spheres of life, such as volunteering, reading books, or playing musical instruments. In fact, in the era of abundance—presuming the presence of the financial support of a basic income—the unemployed will inarguably have these options, along with opportunities to participate in various non-work activities worth pursuing. The presence of these opportunities is not our point. Rather, the point of our thesis is that many unemployed people will realistically *lose* a large portion, and in fact an entire class, of meaning-creating opportunities. This loss needs to be reckoned with.

And yet, Arneson's point may be more sophisticated. Two different categories of leisure participants may exist: a) those who have (or used to have for a considerable amount of time, in the case of retired people) economic roles in work and additionally add meaning to life by participating in activities outside of work; and b) those who cannot have opportunities to play an economic role but who participate in non-work activities.²¹ In theory, people in both situations can equally flourish in non-work activities and equally add meaning to life. But we claim that those who do not have work opportunities to be part of economic cooperation in the era of abundance will *tend to* experience some degree of socio-psychological disadvantages in subjectively engaging and fulfilling non-work activities. In fact, countless works from the literature support such spillover effects (McKee-Ryan et al. 2005; Korner et al. 2012; Grün et al. 2010). Therefore, it is likely, other things equal, that many of those who do not have work opportunities in the era of abundance will potentially be at a socio-psychological disadvantage in meeting the subjective condition of Wolf's hybrid account of meaning in life in non-work activities. Interestingly, Arneson (2009) himself recently rejected his own view, making a distributive justice argument for the significance of meaningful work for the good life, saying, "It is plausible to hold the good life includes meaningful work, and that what we

²¹ Conceptually, there can be two other categories: c) those who have economic roles but do not participate in activities outside of work and d) those who do not have work opportunities and do not participate in activities outside of the economic realm.

fundamentally owe one another is a fair distribution of good quality of life" (p. 139).

One might balk at the notion of the spillover effect, arguing that this effect exists only in work-oriented civilizations. Joanne B. Ciulla (2000), for instance, makes such a point. Extending this logic, it can be claimed that in the coming machine age, if people could be re-educated to mitigate the construct of a work-oriented civilization, the spillover effect would significantly shrink. We believe Ciulla is right about that. Nonetheless, we suspect that some (healthy) orientation to the importance of work is inevitable and desirable in human civilizations,²² and realistically, it is unlikely from a non-ideal theory perspective that concepts of the merits of different sorts of human civilization could be so fundamentally reoriented within the coming two decades, during which those who lack work opportunities will still see the other half of working-age adults contributing to society by working.

Thus, although we concede that in theory those who do not have work opportunities can have meaning in life independent of work, we find a more balanced view in Luciano Floridi's commentary on Keynes's essay:

In the leisure society, the risk is that there will be countless people bored and demotivated, undecided about what to do with their free time... We may turn into 'idle creatures'—as Flavius describes them in Shakespeare's *Julius Caesar*—who 'being mechanical... ought not walk upon a laboring day'. The mildly optimistic reply is that some of us will learn to live a life of leisure worth living (education is the key here), and those of us who will not will still be left with the opportunity of making the most of their leisure if they wish. Civilisation also means the freedom of being a couch potato" (Floridi 2014, p. 147).

Left unanswered, of course, is the axiological question as it relates to the life of a couch potato.

Returning to the era of abundance, with the aid of a basic income guarantee, everyone could potentially have "the opportunity of making the most of their leisure if they wish" (Floridi 2014). At the same time, this should not be negligently interpreted to mean that a massive and systematically ongoing lack of work opportunities to be part of economic cooperation would not be a problem—or that it may be a

²² We think this is likely evolutionary—humans who derive utility from work that is societally beneficial are more likely to form strong societies. Similarly, animals in zoos often become neurotic, because they are denied the ability to roam the broad spaces they evolved to roam and to engage in the hunting and gathering activities they evolved to engage in. Zoos have recognized this, and now work to hide a polar bear's food, for example, to give them some poor relative substitute for the "gainful employment" they would see in the wild.

problem but a trivial one. We argue the opposite—that it comprises a serious personal, ethical, and social problem that limits much of the population in pursuing meaning in life. In a just, decent, and healthy society, securing opportunities for purpose must be a substantial moral and political priority. To use an imperfect analogy, those who cannot have work opportunities to contribute and who feel useless in the era of abundance would be like people with acute physical, mental, or educational disadvantages. That is, it's possible for those with acute disadvantages to accomplish, often with proper training and practice, many of the things that non-disadvantaged people can typically do. Still, their societal conditions are typically deeply *limited* and structurally *unconducive* for them to perform and pursue goals that are commensurate with those that “advantaged” persons can achieve much more easily: One should not romanticize, imagining that there is no difference between the living conditions of people with acute disadvantages and those without.²³ Many who cannot have work opportunities to contribute to the social cooperation of collective value creation and who are affected by ensuing negative spillover effects in other spheres of life in the era of abundance may be metaphorically termed as axiologically disadvantaged.

Implications for Corporate Purpose

Perhaps at this point a reader might say, “Okay, I agree with you. I get that the axiological challenge is a risk not to be ignored. So what? *Why should business ethics researchers pay attention to the challenge?*” To this we answer that the axiological challenge is directly relevant to major questions that business ethics has discussed over several decades, especially within the broad literature about corporate purpose (Blair and Stout 1999; Dodd 1932; Donaldson and Walsh 2015; Stout 2012) and governance (Donaldson 2012; Orts 2012; Strudler 2017; Zingales 1998), including but not limited to the shareholder theory (Boatright 1994; Friedman 1970; Jensen 2002) and the stakeholder perspective (Freeman 1984, 1994; Parmar et al. 2010). We now further clarify how the axiological challenge calls into question these two major theories in business ethics.

²³ We authors are once again extremely uncomfortable with using this analogy, but opted to use it, because in romanticizing the opportunities available through leisure activities we run the risk of ignoring the societal disadvantages those without employment opportunity may face. This is not to say that those without employment opportunities cannot find fulfillment, or even thrive, in our society. Rather, we argue that their opportunities to thrive may be curtailed, and we question whether this is just. Likewise, there are countless examples of those who are disadvantaged thriving in our society. But this does not mean that the barriers to their thriving that currently exist in our society are in any way just.

The Teleological Challenge

The axiological challenge emerges primarily as a result of the uniquely limiting socio-economic structure created by the technological unemployment predicted by various reports to arise due to massive workplace automation (Arthur 2011; Brynjolfsson and McAfee 2014; Frey and Osborne 2013). The overall thesis of these reports is, as explained in the previous sections, that the dominant view in traditional economics that technological innovation creates more human jobs than it destroys won't be true in the near-future society. These reports use different approaches to predict the future workplace, but one common theme among them is considering whether a certain kind of job can be automated enough to replace humans in the near future.²⁴ But the empirical fact that a kind of job *can* be automated does not necessarily mean that it *will* be automated or *should* be automated. There must be another premise that governs this choice to automate.

It is generally assumed that as the market price of automation falls, human workers will reallocate their labor supply to workplaces where tasks are not yet susceptible to automation, but eventually the number of human workers who cannot find an alternative workplace will quickly grow on an unprecedented scale.²⁵ At a fundamental level, the premise leading to the presumption of automation could be more generally understood as follows: business enterprises (e.g., corporations) do and will behave in ways consistent with a certain kind of a theory of the firm that explains (and seemingly prescribes) corporate purpose and governance—that is, to maximize operational efficiency so as to maximize (financial) capital owners' profits (e.g., Boatright 1994; Friedman 1970; Jensen 2002).

This fundamental premise is itself descriptive and empirical, but given its prescriptive power,²⁶ it inescapably invokes a normative question that essentially involves a teleological dimension of corporate behavior: “Should the firm really be guided to behave that way in future society?” or “Is that the

²⁴ Accordingly, the competing intellectual camp attempts to show that many of the jobs essential for human society are so complex in perception and manipulation that even advanced robots *cannot* automate them.

²⁵ For instance, Frey and Osborne (2013, p. 43) write, “labour saving inventions may only be adopted if the access to cheap labour is scarce or prices of capital are relatively high. We do not account for future wage levels, capital prices or labour shortages. While these factors will impact on the timeline of our predictions, labour is the scarce factor, implying that in the long-run wage levels will increase relative to capital prices, making computerization increasingly profitable.”

²⁶ To see the prescriptive aspect of social scientific research and how the prescriptive dimension could be strengthened by normative moral reasoning, see Donaldson (2012) and Kim and Donaldson (2018).

right, desirable, or fitting purpose of the firm in future society?" Saying, "X does and will behave in a certain manner" never means, "X *ought* to act in that manner" (Donaldson 1994). Since Aristotle—who started *Nichomachean Ethics* (2006, p. 3) with "Every skill and every inquiry, and similarly every action and rational choice, is thought to aim at some good; and so the good has been aptly described as that at which everything aims"—there has been a long tradition in ethics that purports to understand and evaluate the ethical status of an action in terms of the good at which it is aimed. In that vein, managers' choices and their ethical desirability could be understood in terms of the good at which they are aimed in their undertaking. Thus, the question to be asked in our context is what is the apt or fitting purpose at which managers' choices are to be aimed in the new machine age?

It is an "Open Question" (Moore 1903/1993; Freeman 2009) whether the capital-owner-profit-maximization model is the justified and legitimate goal or purpose by which managers should be guided in the coming decades, especially if doing so may systematically hinders much of the population from living a meaningful life. In other words, the social scientific predictions empirically, prescriptively, *and* normatively premised upon the shareholder model, in fact, challenge us to pay attention to the ethical and societal risk that the more managers passionately endorse and follow the dominant shareholder/financier model in the coming decades, the more they will commit their firms, negligently or perhaps intentionally, to becoming major contributors to a serious ethical and societal loss, harm, or externality in the coming machine age. In general, this challenge implies that the axiological challenge could be used as an ethical and social legitimacy criterion of corporate purpose in the second machine age, because it is plausible to submit that, other things being equal, a theory of corporate purpose that has resources to satisfactorily address or at least mitigate the challenge is a better model than one that does not. This is a challenge about the *telos* or purpose of business firms, so let us call it *the teleological challenge*.

A possible reaction from the shareholder theory is that the theory is already well positioned to address this challenge by stating that maximizing shareholder values leads to market efficiencies that ultimately benefit society as a whole, *materially*. But this answer misses the point. The teleological challenge that we identify is fundamentally different from material security. It *presumes* material security for the masses and instead questions an insecurity of *meaning*. In the era of abundance, those who do not have work opportunities have material security largely due to increased market efficiency and basic income, but they have seriously limited opportunities for axiological security because they systematically lack opportunities to gain meaning through work.

Another possible reaction from the shareholder perspective is to dismiss the challenge as nonsense, because it is

only the government who bears responsibility toward those who have lost jobs and are having difficulty finding jobs, so that there is nothing wrong with a business firm creating social problems if it causes them without violating existing laws and minimum ethical norms (e.g., "free competition without deception and fraud"; Friedman 1970). Such a view strikes us as absurd. First, practically, the government cannot be relied upon to solve all externalities and problems (Hart and Zingalas, unpublished manuscript). Second, the existence of a functioning government cannot and should not give firms a license to create social problems. Third, the shareholder perspective does not necessarily have to cause such a reaction, at least, philosophically. What is often meant by "minimum ethical norms," broadly construed, is libertarianism, and in our view, libertarian business leaders have ample liberty-based reason to take the axiological challenge seriously. It is beyond the capacity of this article to fully develop such a claim, but let us briefly address it.

Libertarianism has its diverse traditions, but its core is its emphasis on respect for *everyone's* liberty. How to understand liberty is a thorny problem, but for our purposes it can be said that at the center of liberty is "the capacity people have to become responsible authors of their own lives, along with their capacity to recognize their fellow citizens as responsible self-authors" (Tomasi 2001, p. 88). To be a responsible self-author, according to libertarianism, having the power to exercise economic liberty is not just instrumental, but necessary. Accordingly, broad kinds of libertarian traditions praise actions that afford everyone as wide a latitude as possible to choose for themselves their economic lives. Serious libertarians, thus, would not condemn but support business firms that strive to empower as many humans as possible to capably write their own stories and add meaning in economic life rather than let technology determine their stories. Furthermore, not all libertarians deny that the ideal of liberty may sometimes impose some action-guiding norms when there exists a systematic failure to give everyone the opportunity to be a self-author.²⁷ If the teleological challenge to the shareholder theory is credible or is at least a risk not to be ignored—that is, if the existing shareholder model-driven economy might end up with a socio-economic structure that systematically denies many in the population the opportunity to write their own stories in economic life—proactively adopting an open-minded attitude to address the axiological challenge may be a virtue that the ideal of liberty

²⁷ For our interpretation of libertarianism, we are indebted to Jason Brennan, who writes, "Many libertarians believe that property rights—including the right to run our businesses as we see fit—can be justified only if they systematically benefit everyone who is asked to respect those rights. If property rights end up systematically leaving some people behind, it may be unreasonable to demand that those left behind respect those property rights" (Brennan, 2012, p. 204).

in the second machine age can impose on leaders of business firms.²⁸

Fundamentally, we posit that the teleological challenge calls for shareholder model theorists to respond to the axiological challenge by showing how the shareholder tradition could be developed as a fitting theory for the coming machine age. Failing that, other models must be sought.

The Future of Stakeholders

A corporate model that has garnered much attention as an alternative to the shareholder/financier model is the stakeholder theory (Freeman 1984, 1994; Jones 1995; Jones and Wicks 1999; Parmar et al. 2010). According to it, the purpose of a firm is primarily to create value in ways that best balance various stakeholders' interests (e.g., customers, suppliers, employees, financiers, and communities), and a stakeholder is defined, according to Freeman (1984, 1994), as any group or individual that can affect and/or be affected by the realization of an organization's purpose.²⁹ Potentially, stakeholder theory may prove to be a useful framework in the coming machine age, primarily due to its expansive notion of stakeholder, which may be extended to human workers who compete with robots, and who systematically lack work opportunities. However, we only *conditionally* accept the potential of the stakeholder framework: Although stakeholder theory has ample resources to include meaning in life as part of stakeholders' cardinal interests or part of value creation, the traditional dichotomy between the two principal stakeholder groups—the employed and the community—may lead managers to feel helpless in the face of the potential marginalization of human workers. Specifically, as managers try to balance the needs of the two stakeholder groups, it may prove difficult for them to resist the displacement of workers, since the benefits to one stakeholder group must come at the cost of the other. To break this potential deadlock, we propose that firms should actively embrace a third and entirely new type of stakeholder group, which we shall call “agora,” who would be neither the employee nor the community.

²⁸ In a relevantly similar manner, Tomasi writes, “Rather than being simply derivative from the public norms in a liberal society, this [the criteria of good citizen conduct] is a *substantive* or *eudaimonistically* directed understanding of liberal good citizen conduct...to be a good citizen means far more than being merely just, or law-abiding, or consistent in the performance of one's politics duties. Liberal citizenship imposes far heavier burdens: citizenship involves the very center of one's life” (Tomasi, 2001, pp. 67, 70).

²⁹ According to the Stanford Research Institute's memorandum, from which the theory was originally developed, a stakeholder is defined as “those groups without whose support the organization would cease to exist” (Freeman and Reed, 1983, p. 89).

First, unlike the shareholder theory, which does not offer room for anything other than market value of capital owners as the content of value creation or interests, the stakeholder tradition is ready to be elastically extended to embrace meaning as part of the content of value creation. Stakeholder theory has been defended by various normative theories such as Kantian ethics (Evan and Freeman 1988), norms of fairness (Phillips 1997, 2003), and libertarianism (Phillips and Freeman 2002), but the major philosophical foundation for stakeholder theorists is pragmatism (Freeman 2009; Wicks and Freeman 1998). The pragmatic perspective that stakeholder theorists endorse has often framed the purpose of corporations as an empowering and useful tool to enable humans to write better “narratives” (Rorty 1989). Hence, managers who endorse the stakeholder perspective have no reason not to be open-minded to the urgency and legitimacy of the axiological challenge per se, but only if the managers are justified within the stakeholder framework to identify those who face a systematic lack of work opportunities as a legitimate stakeholder group.

At first glance, using Freeman's (2009) original definition of a stakeholder—that is, any group who affects and/or is affected by the achievement of the organization's objectives—in a conceptual manner well covers the job seekers as an independent stakeholder group, given that their unified interests in meaning-seeking through gaining work opportunities are obviously affected by how firms are operated, especially in terms of automation strategies. But this inflationary definition, without some principled limits, may not provide a reasonable explanation of why the job seekers must be considered as a stakeholder group, the interests of whom managers should take into consideration when they decide how to run their firms.³⁰

Second, if we use the theory's often-used stakeholder analysis, those who structurally face the meaning crisis can be part of a stakeholder constituency known as “community” (Dunham et al. 2006). But the community stakeholder is usually understood as a secondary stakeholder group whose interests are less weighty than those of primary stakeholder groups that include financiers and employed workers, especially in terms of fairness or meritocracy (Phillips 1997, 2003) and legitimacy and power (Mitchell et al. 1997). Furthermore, given that stakeholders are alternatively defined as “those groups without whose support the organization would cease to exist,” the unemployed can likely be disregarded, unless their support is crucial for a firm to exist. It is unclear, then, how much attention stakeholder perspective-oriented

³⁰ A similar challenge was made to the stakeholder theory by Orts and Strudler (2002), who argued that stakeholder theory is futile for sustainability because the natural environment cannot be a stakeholder.

managers would and should pay to those experiencing the challenge of meaning in life during the second machine age.

Furthermore, even if the job seekers were considered a group of community stakeholders; a typical stakeholder relationship to community has only limited resources to address the teleological challenges. Any adequate solution must allow job seekers to become participants in the core operation/organization of corporate activities, and by doing so contribute to the common good of society and actively develop their agency in the organizational setting. No doubt, as we mentioned above, individuals can contribute to the common good through community activities, sponsored by corporate philanthropic activity, a primary kind of stakeholder relationship to community. But in contemporary societies, those who have limited participation in value creation processes would likely have limited opportunities to contribute to the common good and to actively develop their agency.

Stakeholder theorists can object that the above analysis is unfair because stakeholder-oriented managers would not suddenly face the axiological crisis but would make decisions step by step throughout the coming decades, to mitigate the axiological challenge in a gradual manner. For instance, managers would first face a series of situations wherein they made decisions about whether to automate or not, or how much, during which they would not straightforwardly maximize automation without hesitation, but instead try to balance the interests of low-ranking workers and other stakeholder groups including shareholders, customers, creditors, high-ranking workers, etc. But even in this picture, it is unclear why the marginalization of human workers would not occur sooner or later.

Crucially, as stakeholder theorists explain, stakeholder theory never claims that interests of stakeholders must be balanced in a strictly egalitarian manner (Phillips et al. 2003; Parmar et al. 2010). Rather, norms of fairness have been developed as a major legitimacy standard for allocating benefits to stakeholders who contribute to value creation (Phillips 1997, 2003), which in our view is normatively the most rigorous foundation for stakeholder identification and balancing interests. If this is taken as so, stakeholder theory-oriented managers would be inclined to believe (reasonably) that the interests of human workers—in particular displaced human workers—should be subservient to the interests of other stakeholders, as human workers' contribution to value creation would become more and more limited, given the benefits of automation to customers, financiers, and others.³¹ This would have the perverse effect of confirming,

³¹ Macey and Miller (1993) criticize the stakeholder theory's lack of a rigorous balancing procedure, because without such a tool, managers "can justify virtually any decision they make on the grounds that it benefits some constituency of the firm." We do not accept this type of anything-goes criticism against stakeholder theory but acknowl-

from a theoretical/philosophical perspective, the devaluing of workers who have been displaced from employment. At this point, the managers might consider implementing some minimum threshold protection or affirmative action for human workers facing the threat of automation, which could be developed by importing some deontological duties,³² but stakeholder theory itself does not have such resources, and the theory seems to oppose making any principled deontological constraints, given its pragmatic emphasis on "balancing" (Orts and Strudler 2009).

Perhaps, unlike the shareholder-oriented managers, stakeholder-oriented managers might at least try to imagine an alternative kind of automation that could mitigate the axiological challenge. But to be consistent with the fundamental vision of stakeholder theory—that ethics should not be cast as an accessory or an afterthought to the value creation process but must be positioned at the core of management and innovation (Freeman 1984, 2009; Parmar et al. 2010; Wicks and Freeman 1998; Jones and Wicks 1999)—any solution to the axiological challenge must not be that businesses charitably delay automation for the sake of humans by providing a certain number of jobs as CSR. Businesses can surely do that, but the stakeholder-oriented manager must realize that unless societies radically change the basic incentive systems of the market economy, most delay or charity strategies would be inevitably defeated by economic incentives—consistent with the stakeholder theory—toward automation. The manager, hence, must recognize that the challenge is directly to the very nature of business strategy.

Thus, stakeholder-oriented managers must not avoid frontal confrontation with the market pressure to automate: Hiring humans is costly due to salaries, pensions, human resources management, paid vacations, and limited working hours (Davenport and Kirby 2016). As a logical matter, a fundamental solution to the problem of meaning must encourage businesses to sustainably offer work opportunities for humans to be part of economic cooperation through fair economic competition with robots as well as other humans (unless doing so harms comparable interests of all involved parties, including the unemployed and the worst-off

Footnote 31 (continued)

edge that stakeholder theory as it is does not have clear resources to prove its usefulness to address the axiological challenge.

³² Donaldson and Walsh (2015) added what they call the "Dignity Threshold" to the stakeholder framework. The Threshold demands minimum ethical respect to participants in collective value creation. This is a promising step forward for businesses to pay more attention to the axiological aspect of humans, and it deserves further discussion. Does business' minimum respect for a person's intrinsic worth mandate business' accountability to pay attention to the challenge of meaning? Are those who seek work opportunities to contribute to the good of society participants in collective value creation?