



11

Three Rival Versions of Work and Technology: Smith, Marx, and MacIntyre in Discussion

Javier Pinto-Garay , Germán Scalzo, and Ignacio Ferrero

Introduction: Technology and the Unknown Future of Work

Over the second decade of this century, a set of groundbreaking, emerging technologies have signaled the start of the Fourth Industrial

J. Pinto-Garay (✉)

ESE Business School, Center for Business Ethics, Universidad de los Andes,
Las Condes, Chile

e-mail: jpinto@uandes.cl

G. Scalzo

School of Economics and Business, Universidad Panamericana, Mexico City,
Mexico

e-mail: gscalzo@up.edu.mx

I. Ferrero

School of Economics and Business, Universidad de Navarra, Pamplona, Spain

e-mail: jiferrero@unav.es

Revolution (Schwab 2016; World Economic Forum 2020), profoundly affecting social and personal life. These technologies prompt society to interfere, manipulate, improve, and redirect new dimensions of nature and human life. Such impact, indeed, can be seen in artificial intelligence and nanotechnologies reaching previously unimaginable places, like the human mind and the molecular world. Yet, new technologies do not just revolutionize society; they also have an industrial and organizational component that brings the need to address new moral considerations.

The discussion on the moral implications of this technology has recently gained increasing attention (Brynjolfsson and McAfee 2016). This is greatly due to the current challenges these technologies prompted on the future of work.

While the First Industrial Revolution was characterized by the massive introduction of poor working conditions in Modern Europe, the Fourth Revolution is depicted by the potential that automation has to brush aside a considerable part of the workforce, creating structural unemployment at rates never seen before. A substantial amount of literature has indicated that technological adoption will impact workers' jobs by displacing some tasks performed by humans into the realm of work performed by machines (World Economic Forum 2020). Governments will have to face the potential substitution of workers with artificial intelligence systems; the obsolescence of professional employees, and the consequent reskilling and upskilling to avoid worker displacement; the empowerment of job transitions from declining to emerging employments; as well as other sociological phenomena associated with work, technology, and social impact (Hooker and Kim 2019).

Until the appearance of artificial intelligence, discussions on workforce size have normally focused on the cost of salaries and compensation. However, these new technologies have raised new problems in labor rights and human resources departments. Indeed, the firm's internal politics, syndicalism, unions, and organizational democracy trends have an important role to play when deciding on the configuration of an organization's employees. Hiring or firing employees is a matter of economic and political analysis, which is made clear when considering that machines can be a very expensive investment, but they do not go on strike, they do not join unions, they do not get unemployed, their

mood is stable, and they never ask for a wage raise. Geopolitics, cost analyses, and new and more stringent labor rights, they all foster the convenience of automatizing work and replacing employees for technology. Thus, layoffs for workers are not just a threat in big industries, but have the potential to spread to all organizations and services, reaching even domestic tasks, such as cleaning and cooking at home.

The explosion of technological innovation can also drive future growth across industries and unleash human potential in unprecedented numbers (World Economic Forum 2020). This innovation can significantly reduce the cost of producing goods and providing services. However, to become an opportunity for automation in small and medium industries, these new technologies need to be affordable and distributable worldwide.

Therefore, we are obliged to consider the moral convenience of automation and fewer human jobs. Social, cultural, and political changes are not irrevocable, as they can be reoriented and even detained based on certain moral valuation in society. Thus, it is important to understand the moral direction in which work and technology should interact (Martin and Freeman 2003). We must examine the relationship between work and technology through an ethical approach to justify morally the Industry 4.0, as well as the possibility of high rates of structural unemployment, to move effectively toward a better future of work.

The aim of this chapter is to address how technology can morally affect work. For this, we undertake a philosophical approach throughout a revision of three paradigmatic authors on the technology-work relationship: Smith, Marx, and MacIntyre.

In the following two sections, we will analyze Adam Smith and Karl Marx. Although considered intellectual antagonists, they were key to build the eighteenth-century economic approach to human activity. Besides their differences, we sustain that because of their reductionist anthropological assumptions, both failed to give a sustainable and realistic account of the meaning of work and its contribution to individual flourishing and the common good.

In the fourth section, we depict how MacIntyre provides a theory of work in line with a Neo-Aristotelian virtue ethics approach to management theory (Beadle and Moore 2006; Brewer 1997; Collier 1995;

Dawson 2009; Dawson and Bartholomew 2003; Dobson 2004; Halliday and Johnsson 2009; Horvath 1995; Moore 2005; Sison et al. 2017). MacIntyre has indeed made important theoretical contributions for understanding modern corporations based on the “practice-institution” distinction (Beadle and Moore 2006; Moore 2002) in what Moore has described as Modern Virtue Ethics in Business (Moore 2005). By rehabilitating the idea of a practice, MacIntyre offers a more realistic and robust approach to understanding the way technology might negatively affect work, but also recognizes it as an opportunity for excellence in the modern corporation. We will show how a MacIntyrean theory of work for corporations provides an original theoretical framework, needed to explain the role of technology in work based on grounds that differs from the mainstream approach in economics, heir of the work of Smith and Marx. Finally, we conclude.

Adam Smith on Technology and Virtue

Adam Smith has provided an original consideration on the relationship between technology and morality. This moral philosopher turns out to be the first well-known academic thinker to connect the need to optimize production—including the natural consequence on wealth—with the context in which virtues can be affected negatively or positively by industrial technology and specialization. Smith’s ideas on the relationship between virtuous work and new uses of technology are quite important for business ethics theory at least for two reasons.

The first one is historical, when he synthesizes previous ideas on this subject in his masterpiece *Wealth of Nations* (WN henceforth). In fact, this work is one of the first modern studies on the relationship between productivity and morality (Dupré and Gagnier 1996). No one before or after Smith gave so much importance to division of labor (Schumpeter 1954), and to its role in productivity and economic development (Smith WN I, 1, 1; McNulty 1973) and in personal development and the moral theory of work. Indeed, the Scottish philosopher describes the relationship between the division of labor and the growth of

production, and its impact on the moral aspects (virtue) that a worker can or cannot achieve (Hühn and Dierksmeier 2014; Aspromourgos 2013).

The second one is because Smith was a pioneer describing the twofold effects of technology in the workers, when both moral development and personal degradation are possible (West 1964). The Scottish philosopher shows how moral effects—virtue or vice—depends on how the division of labor defines the use of technology inside the factory.

Smith firstly sustains the optimistic thesis about a positive relationship between technology and personal growth: “The greatest improvement in the productive powers of labor, and the greater part of the skill, dexterity, and judgment with which it is anywhere directed, or applied, seem to have been the effects of the division of labor” (Smith WN, I, 1, 1). Smith sees factories as opportunities for both productivity and personal development. According to him, non-specialized labor does not provide the chance to the workers to develop their capacities, skills, and concentration that are good for them. Labor in rural areas, performed without any kind of division of labor and specialization, is exposed to a systematic change of tasks and tools during the same day. Consequently, this work promotes the incapacity to perform what we nowadays would call a “fully motivated task,” even in urgent situations (Smith WN, I, 1, 1).

On the contrary, to learn a specialized job, possible thanks to the division of labor, turns into an occasion to gain certain virtues needed to overcome laziness and vagrancy (Smith WN, I, 1, 1). Division of labor—in the Smith’s perspective—facilitates a moral development of workers when the organization of tasks opens a space for invention, and motivates employees to create new and better production processes, even small improvements in everyday tasks (Rosenberg 1965). Thus, division of labor and specialization might foster a virtuous relationship between skill and virtue acquisition and technological development needed for increasing productivity. Therefore, those factories organized on the principle of division of labor give the opportunity to achieve economic prosperity, but also moral development when they avoid vices associated with low qualified operations (Elton 2006). In the Smithian

view of industrialization, developed technologies can facilitate workers' flourishing, because virtues and skills become an important resource for productivity and economic growth. Industrialization can foster a virtuous circle of man–machine, not only for the eighteenth-century factories, but also for contemporary technological firms.

Nevertheless, Smith considers the pessimistic view as well. The sake of productivity can provoke negative moral effects on workers, causing personal degradation because of performing a very specialized task, turning work not only into a more mechanical activity, but also into the more stultifying activity as well (Aspromourgos 2013). The increase of productivity, generated by the division of labor, might entail a negative effect on employees' development to the extent that a "man whose whole life is spent in performing a few simple operations, of which the effects are perhaps always the same, or very nearly the same (...) generally becomes as stupid and ignorant as it is possible for a human creature to become" (Smith WN, V, 1, 3). In such mechanical performance, anyone would lose the habit of intellectual exercise (Smith WN, V, 1, 2), as it happens with slaves who rarely have some capacity for inventiveness. This is highly important, since, to Smith, "all the most important improvements, either machinery, or in the arrangement and distribution of work, which facilitate and abridge labor, have been the discoveries of freemen" (Smith WN, IV, 9). As Ferrero and Calderón note: "The division of labor can degenerate into a radical compartmentalization in assembly lines that limits, in most cases, the employee's task to a mere technical routine as a succession of simple tasks consisting sometimes in the repetition of mechanical movements" (2013, p. 532). In these scenarios, "productive activity is not usually performed for reasons of virtue or beauty but rather is focused directly on the result" (Ferrero and Calderón 2013, p. 532).

Smith's idea about virtue and productivity, far from naïve, proposes a realistic view on industrial organization when he evidences the possibility to the degradation of workers because of productivity and specialization. This scenario is also not alien to our contemporary industrial reality. Consider, for instance, the impact on workers that many modern sweatshops in China or India have been causing on their employees. Modern degradation might not be described as stultifying, but as depression, anxiety, or even suicidal conducts, as it happened in the Chinese

technological industries Foxconn until 2012 (Mozur 2012). In these cases, it seems impossible to compensate the moral degradation of highly productive and brutalized employees.

In sum, even, when there is a chance for both virtue and stupidity as a result for employees, Smith's idea about the relationship between technology and moral development is not contradictory, but somehow pragmatic. It would depend on how to implement the division of labor.

Nonetheless, the Smithian proposal for technology and human work opens the possibility for moral criticism. We claim that, considering a correct implemented division of labor, the well-motivated use of imagination, resourcefulness, and self-domain, among other virtues (Calkins and Werhane 1998) is basically needed for the sake of productivity, not as an end itself. The optimistic scenario proposed by Smith is not underscore for the sake of moral development or virtue achievement, but for the sake of increasing productivity and the employee's performance. According to him, "A great part of the machines made use of in those manufacturers in which labor is most subdivided were originally the inventions of common workmen, who, being each of them employed in some very simple operation, naturally turned their thoughts towards findings out easier and readier methods of performing it" (Smith WN, I, 1).

A division of labor implemented among virtuous employees turns into a superior kind of work organization, more productive and characterized as a realm for developing personal virtues. However, this opportunity is seen as a competitive and strategic advantage, not as a moral obligation for firms. The Smithian perspective encourages us to create an organizational system in which any employee can use their imagination, skills, dexterity, and judgment for personal improvement. Moreover, such a goal would eventually provide a virtuous circle in which employees not only gain in virtue, but they also deliver more technological and productive solutions for the firm. As Weinstein notes, "Smith's advice to those who live in commercial times is to understand that bettering one's own condition is as concerned with the moral and interpersonal as it is with the economic" (2017, p. 141). The road to moral development and the road to economic success are the same. However, the problem with Smith's vision is that to apply the division of labor and the specialization

Table 11.1 Work-technology relationship and Smith's organizational solution

Human-work/technology relationship	Organizational solution
<p>Technology has a twofold effect in workers, allowing simultaneously both moral development and personal degradation</p> <p>Positive effect. The division of labor and specialization boost workers to develop their capacities, skills, creativity, and motivation. It avoids vices associated with low qualified operations such as laziness and vagrancy</p> <p>Negative effect. The excessive specialization can cause personal degradation of workers, when they perform very specialized tasks, turning work into a mechanical and stultifying activity</p>	<p>The organizational solution comes from outside the firm</p> <p>Since the rationale to labor division and specialization is mainly improving productivity, the solution to avoid personal workers degradation must come from the public authority, responsible for the education of the workers</p>

of tasks aims not only for the moral development of workers, but mainly for the sake of improving productivity, as a strategic advantage.

In sum, if we take the Smithian position for assessing the relationship between technology and work in firms, we would have to suggest a moral limitation. Smith does not see any organizational solution for moral degradation. Instead, the Scottish philosopher explicitly points out that in those situations in which specialized workers do not get anything but their progressive hebetude, society needs a social reform performed by the public authority (Elton 2006) responsible for the public education for those workers (Smith, WN, V, I, 2) as a solution oriented to diminish the damage (McNulty 1973) (Table 11.1).

Marx and the Industrial Determinism

It is undoubted that Smith's ideas had a huge impact in economic and political thought. However, not everyone accepted the Smithian approach to human work as satisfactory and realistic. Karl Marx, a witness of the Industrial Revolution in London, and especially of the employees' poor conditions of work and living, criticized Adam Smith's

proposal. After reading the *Wealth of Nations*, Marx wrote in his masterpiece *Capital* that Smith had the necessity to solve what he called the “total mutilation” caused by the division of labor proposing the public education solution (Marx 1990, I, XII, 5). Marx suspected that inside the firm, any chance employees could might have to develop themselves was not real, and the solution for such problem had to be solved outside the factory, as the same Smith explained.

Marx’s ideas about the effects of the division of labor were much more a reinterpretation of Adam Ferguson’s thought. Ferguson was a moral philosopher belonging to the Scottish Enlightenment, and, according to Marx, the Smith’s mentor (Marx 1990, I, III, 2, b). Precisely, Smith had a certain controversy with Ferguson on the concept of division of labor (Hamowy 1968). The critique of Marx was aimed not only to Smith, but also and especially to the Scottish Enlightenment. With his attention only in the negatives effects of the division of labor, Marx appealed to the old philosophical concept of “alienation” (West 1969) to describe the precarious situation of work caused by the modern industry of the first Industrial Revolution (Marx 2012). With alienation in mind, Marx formulated his critique to the capitalist production system.

According to Marx, work is only a productive activity (Kanungo 1982). The division and specialization of labor have split the productive process into stages that typically became compartmentalized, with the risk of not having communication or interaction among them. Because employees are assigned to the different phases, they can be isolated from both the whole production process and the final product (Ferrero and Calderón 2013). The productive process is only a means of control over the productive force, which is integrated by labor power and productive means (Honderich 1982). Industrialization led to a design of the productive process as a succession of simple tasks consisting very often in the repetition of mechanical movements.

From a Marxist perspective, the principle of division of labor on which capitalism is based provokes that employees are limited to mere mechanical routines; employees must follow some operational protocols and focus on their isolated contribution to the process, regardless of what happens earlier or later in the productive process. Consequently, they

have been bereft from their intellectual capacity, taking away what naturally constitute part of their work (Marx, 1963, I, XII, 5). They become alienated because their loss turn into a gain in the capital of the firm, which is not their property. This alienation implies, according to Marx, that ignorance is the mother of modern industry, because the industries that depend less on the employee intelligence ended being the most profitable and successful (Marx 1963, I, XII, 5), since imagination and thinking are always exposed to err. Employees found themselves and they feel at home only when they are not working (Marx 2012). They turn into a mere means of production (MacIntyre 1969). This kind of capitalist industry finally substitutes workers by machines (Marx 2012), for the sake of more productivity.

This historical process described by Marx derives in a situation in which the division of labor makes workers impossible to act freely, self-determined, and spontaneously. Freedom and morality can only be recovered through the suppression of all productive systems based on the division of labor. In the end, by establishing a communist society (Marx 1963, I, XXIV, 7). This new society would give back to workers their self-determination capacity (Marx 2012). The communist society will not suppress work specialization (Marx 1963, I, I, 4), but only the compulsory character of work (Marx and Engels 1970, I, B, 4) when all the immoral institution of capitalism—private property, division of labor, and market competition—be eliminated (Bimber 1990; Marx and Engels 1967, II). Through the self-determination, the communist human being will finally be the result of her own work (Brenkert 2013).

Nevertheless, a Marxist approach to work and technology is not essentially pessimistic and critic to technological developments. The Marxist dream about a society in which individuals are free to choose what they want to do, acting self-determined and spontaneously, without the obligation to be physically present at the workplace, suffering long and strenuous workdays, is not distant from the current increasingly self-employment society. We are witnessing how technology is allowing a large part of society to work from home, or even to be self-employed, free to choose their daily activity, without entailing the end of private property, as Marx suggested.

Table 11.2 Work-technology relationship and Marx's organizational solution

Human-work/technology relationship	Organizational solution
The division and specialization of labor, thanks partially to technology, have compartmentalized the productive process, isolating workers from this process and from the final product, provoking the "alienation" of workers, and reducing their job to mere mechanical routines	The organizational solution comes from outside Public authority must suppress the immoral institution of capitalism and its three pillars: private property, division of labor, and market competition
The specialization makes workers impossible to act freely, self-determined, and spontaneously	

The moral problem, associated with the Marxists idea of freedom and self-determination at work, is mainly associated with the use of technology in industrial organizations that, according to him, is inseparable from the division of labor. Consequently, any form of what Smith considers productive cooperation is morally affecting employees in a negative manner, alienating them. The Marxist solution comes from technological developments that, along with private property suppression, allows society to work freely.

Following MacIntyre, we claim that such position sets the firm as a negative reality in society, which is in fact not true: Modern corporations can be good places for moral development, and technology can be used to contribute in that direction (Table 11.2).

From the Pin Factory to the Workplace Community: The MacIntyre's Approach to Modern Work

In this section, we depict how MacIntyre provides an organizational sociology useful to explain how organizations can promote or frustrate the development of the virtues of workers (Beadle 2017). MacIntyre bases his approach on the distinction between practice and institutions. This theoretical framework will help us to explain the role of technology in modern work based on grounds that differs from the work of Smith and

Marx. We will explain how, according to MacIntyre, technology, on the one side, can negatively affect workers and, on the other side, can become an opportunity for excellence and flourishing; and, from this framework, we will revise the Smith and Marx perspectives.

MacIntyre distinguishes practices and institutions in terms of the ends sought by each. Practices are “any coherent and complex form of socially established cooperative human activity through which goods internal to that form of activity are realized in the course of trying to achieve those standards of excellence which are appropriate to, and partially definitive of, that form of activity, with the result that human powers to achieve excellence, and human conceptions of the ends and goods involved, are systematically extended” (MacIntyre 1981, p. 175).

Practices involve goods that cannot be obtained outside of the cooperative activity (internal goods) and “standards of excellence” by which the performance of the activity could be partially judged. Practices also yield two results: the development of distinct human capacities for excellence and an improvement in the understanding of specific ends or goods (Ferrero and Sison 2017, p. 1157). Institutions host practices. The former put in place the structure for the latter to develop, but they can also constitute a risk insofar as they can privilege the achievement of external goods over internal goods. Institutions “are characteristically and necessarily concerned with [...] external goods. They are involved in acquiring money and other material goods; they are structured in terms of power and status, and they distribute money, power and status as rewards” (MacIntyre 1981, p. 194).

Therefore, practices aim at excellence (as measured by standards internal to the practice), while institutions aim at success (as measured by standards external to the practice) (Beabout 2017). Institutions, thanks to the external, material goods they procure and administer, are necessary for the sustenance of practices. However, when the institutions pursue solely external goods corrupt the goods internal to practices (Moore 2002).

Moore applied MacIntyre’s distinction between practices and institutions to understand how firms can act in a virtuous and excellent manner (Pinto-Garay 2019). He distinguishes between corporate character and virtues—which follow from practices—and corporate culture

and values—that follow from institutions (Moore 2005). In the struggle against what MacIntyre described as the corruptive forces of capitalist institutions, Moore and Beadle explained the conditions in which businesses could protect practices, develop virtues, and encourage moral agency in decision-making (Moore and Beadle 2006). Such balance between practices and institutions materializes in virtuous corporate character, which comprises the virtues necessary for a corporation to engage in practices of excellence, focusing on achieving the internal goods of the practice. This virtuous character allows a corporation to avoid the threats from its own inordinate pursuit of external goods, which can corrupt the practice, making impossible its employees to achieve the internal goods and, therefore, excellence.

To assess the role of technology in the corporation with the MacIntyre's framework, we should consider technology, no matter their complexity and advances, as an external good. Personal work, on the contrary, should integrate both the external dimension of productivity and the internal good associated with human practices. Personal work can be a practice featured by internal goods and virtues, valued as a source of personal fulfillment (Pinto-Garay and Bosch 2018). Therefore, if corporations give prevalence to technology over personal work, they corrupt the practice of working, by reducing personal work to a productive resource but not as an end in itself.

The distinction between internal and external goods is a proper conceptual framework for understanding what gives meaning to human activity, that is, to consider work as meaningful and thriving activity (Beadle and Knight 2012), and to analyze the relationship between technology and work based on grounds that differs from the proposals by Smith and Marx.

A MacIntyrean Critic on Smith

MacIntyre's ideas have been crucial to rethink the possibility of virtue in a post-Enlightenment culture, especially in the field of economics and business, dominated by liberal philosophy and the culture of individualism.

From a different angle from Smith, MacIntyre emphasizes the role of community and socio-historical narratives in the development of practical rationality, when he conceives corporations as places where their members can exercise virtues, thereby gaining internal goods and personal flourishing, enabling corporations on their narrative quest toward a goal of excellence (*telos*) (Moore 1999, 2005; Collier 1995). According to MacIntyre, “What is missing from Smith’s account is any conception of economic activity as capable of being cooperatively and intentionally directed towards the achievement of common goods” (MacIntyre 2016, p. 92). Smith’s perspective rests on an individualistic conception of work, which can contribute to many forms of cooperative performance, especially through the division of labor, even efficient ones, but it cannot be oriented toward excellence when the common good remains outside the practical setting, and productive work is not sustained by fellowship.

Cooperation at work is akin to the plural form of production, i.e., not bad in itself, but rather natural and in need of orientation toward something qualitatively better than mere efficiency. According to MacIntyre, excellent practices are complex form of socially established cooperative human activity. Therefore, practices depend on how people are willing to cooperate (MacIntyre 2016). A certain kind of cooperation is characteristically involved in practices (MacIntyre 1981). As Finnis explains, things improve for everyone with a division of labor between families, specialization, technology, joint or cooperative enterprises in production and marketing, a market and a medium of exchange, in short, an economy that goes beyond the domestic realm (Finnis 1980). The productive dimension of work needs several forms of cooperation not only because the satisfaction of needs demands coordination from a variety of producers, but also mainly because this coordination implies the search for common goods.

MacIntyre warned of the corruptive power of institutions, even though an efficient form of cooperation, if internal goods are overturned in favor of external ones. When corporations are excessively focused on short-term material results—mere productivity—at the expense of personal work—institutions become corrupted. To MacIntyre “Short-term profitability is the enemy of good productive work” (MacIntyre

2016, p. 171). Therefore, corrupt institutions can undertake productive work and perform efficiently with effective short-term policies, aiming only at external goods and, consequently, encouraging a culture of competition among those who integrate the firm (Moore 2002; Dawson 2009). Cooperation becomes much more a form of sum zero game than a resource for building a community of work.

The source of the institutional corruption is found in conceiving work and employment in an individualistic manner: “For liberal individualism a community is simply an arena in which individuals each pursue their own self-chosen conception of the good life, and political institutions exist to provide that degree of order which makes such self-determined activity possible” (MacIntyre 1981, p. 195). This individualism embeds Smith’s understanding of markets as based on self-interest, which he exemplifies with his famous passage on the brewer, butcher, and baker’s lack of benevolence toward their customers (Smith WN, 1, II, 2). According to MacIntyre, “On Smith’s account of economic activity, it is by each individual pursuing the increase of her or his own profit that productivity is increased, and each individual benefit from the labor of others, so that the general prosperity is increased” (MacIntyre 2016, p. 91). A Smithian workplace—akin to his pin factory—can be constituted as a cooperative organization of work that aims solely toward individualistic goods, fostering competition (Moore 2002; Halliday and Johnsson 2009), and differs entirely from a community, affecting the development of corporations and avoiding work to become a space for personal thriving.

As Horvath explains, for MacIntyre, this competition scheme becomes a win-lose contest in which personal excellence ceases to be the primary goal, turning internal standards of a good job into external ones and pushing people toward acquisitiveness. Thus, a sense of social benefit is lost, replaced by a self-centered perspective that often characterizes the modern business world developed based on an ethics of effectiveness and personal advantage (Horvath 1995).

However, as MacIntyre reminds—following Aristotle—the virtue of friendship is the bond of human community (MacIntyre 1981), and individualism is at odds with fellowship. An individualistic conception of work breaks these bonds, making impossible to achieve common goods,

and it is essentially contradictory to the pursuit of excellence and a good life, because the latter is achieved when internal goods are privileged over external ones (Moore 2005). In MacIntyre's own words: "It is because we live out narratives in our lives and because we understand our own lives in terms of the narratives that we live out that the form of narrative is appropriate for understanding the action of others" (MacIntyre 1981, pp. 2011–12). Thus, a good narrative of work demands the consideration of my fellow workers' personal narratives, understanding the people with whom I interact (MacIntyre 2016). To MacIntyre "... individuals can achieve their own individual goods only in and through achieving those common goods that they share with others, qua family members, qua colleagues in the workplace, qua fellow citizens, qua friend, so that care of one's family, of the ethos of one's workplace, of the justice of one's political society and of one's friends are characteristically and generally marks of a good human life" (MacIntyre 2016, p. 118). Therefore, a MacIntyrean definition of cooperative work cannot be individualistic since the concern for our co-workers is a *sine qua non* condition for personal excellence. Cooperative work must be performed in service of colleagues at the workplace, oriented to another people's well-being, building a community of work. MacIntyre considers this purpose as part of a good life (*eudaimonia*). This fellowship goes beyond feeling empathy toward others, as it were only a kind of philanthropic sentiment at work. MacIntyre explains that the good practical judgment not only looks toward "your neighborhood's good," but is also properly good when deliberation is shared, that is, when choosing as a community the best for the community. To MacIntyre, "We live out our lives, both individually and in our relationships with each other, in the light of certain conceptions of a possible shared future, a future in which certain possibilities beckon us forward and others repel us, some seem already foreclosed and others perhaps invisible" (MacIntyre 1981, p. 215). Only in this sense the workplace can be common good oriented, a social context in which we work together in "a history of how the shared project of achieving those [common] goods, came to inform each of their lives" (MacIntyre 2016, p. 61). This is the only possible way to explain the phenomena of corporate culture as a common (shared) narrative of excellence.

A MacIntyrean account for modern corporations necessarily revitalized the role of fellowship as qualitative superior to any form of efficiency in the use of technological resources. In this sense, the value of technology is based on a different perspective than Smith's, when work and the use of technological resources (even in organizations based on the principle of division of labor) are virtuous only when they aimed to the firm's common good. To MacIntyre, technology must be at the service of workers, and oriented to excellence, aimed at achieving the common good of the firm. The individualistic assessment of technology by Smith makes impossible, or at least much more difficult, to protect work as a practice from being corrupted by corporations.

A MacIntyrean Critic on Marx

Although MacIntyre's long-standing critique of modern corporations and liberalism was profoundly influenced by Marx, and "his intellectual evolution over the past six decades has been marked by this influence alongside his Christianity" (Blackledge 2014, p. 705), he cannot be labeled as Marxist. MacIntyre shows a profound criticism with modern industrialization, finance, and consumption because of labor exploitation, justice, and fair pricing (MacIntyre 2016). He concurs with the Marxist critique on capitalism as the cause of worker alienation; in the capitalistic world, "productive activities are chopped-up or decomposed into simple, meaningless units that even machines can do for the sake of productivity and profits. Workers lose sight of the purpose, meaning and context of their labor as a whole; they are reduced to being just another cog in the capitalist wheel. Work loses all personal value" (Sison et al. 2018, p. 12). However, he ended up rejecting Marxism by its unconvincing alternative to capitalism (Blackledge 2014).

In our opinion, MacIntyre addresses the problem of work and technology from a different angle from Marxism, providing what we see as a critic to Marxism.

While Marxism stood the idea of a technological determinism for assessing the morality of industry, MacIntyre opened the possibility for modern corporations to choose between corruption and excellence, no

matter the nature of the technology used. Modern corporations are places where human thriving can take place, even when the risk for corrupting practices is always present.

The Scottish philosopher explains how two different cultural settings, the Japanese and the British, show how to use technology in two different sectors—automobile manufacture and television, respectively—in very different ways. On the one hand, in the Japanese firms workers are able to pursue standards of excellence that they themselves have identified as worthwhile, making their own. In the British corporations, conversely, employees are directed toward ends that are the goals of administration and managers imposed upon their activities. For MacIntyre, the Japanese firm assumes that the quality of the products lies in the workers, so they are treated as agents with rational and aesthetic powers. The British organizations give primary responsibility to administrators and managers, and employees are treated as means to the ends of administration and managers (MacIntyre 2016).

Breen explains that, when deliberating on performing productive work, we reflect not only upon the technical means we employ, but also upon the relationship between the chosen means and the moral ends we seek, namely excellent performance, the quality of the resulting products, and the overall social purposes they serve. In work, practical wisdom and *techne*, far from separate, are so jointly articulated that we can speak in Aristotelian terms of a *phronetical-techne*, this is, the practical virtue applied to technical issues. In other words, production in work—when it is excellence oriented—implies both instrumental/productive and moral/practical features (Breen 2012). Thus, determining the right means for attaining an intended goal is therefore not just a technical matter, but also a moral one. This means that work, following an Aristotelian definition, is a *praxis* in *poietical* activities, or in MacIntyrean terms, a skilled-practice aimed at production.

To MacIntyre, firms are excellent or corrupted depending on how employees are encouraged to work (Pinto-Garay and Bosch 2018). Accordingly, the relationship between technology and work demands that employees are not structured by technological resources. Technology has to be considered and used as an extrinsic good, an instrument for work. Otherwise, if any form of production overlooks internal goods

and virtues, the practical dimension of work is dramatically reduced, becoming corrupted (MacIntyre 1981), and excellence is unreachable.

However, technology and technical knowledge could be a necessary instrument for achieving excellence. MacIntyre explains that extrinsic goods associated with production, i.e., technology, do not have a merely secondary role—like second-class goods—but are also valued according to their instrumental capacity for excellence, that is, when they serve the purpose of practices and internal goods (Pinto-Garay and Bosch 2018). Practices rely also on instrumental resources.

Therefore, when it comes to productive tasks, the relationship between producing and virtues is not just related to the correct use of instrumental goods (which is mainly a technical problem). Production is also valuable in terms of the good habits needed to achieve an expected outcome whose realization depends not just on technical skills, but also on virtues that sustain the work and facilitate decision-making during the process. The shoemaker, for instance, does not deliver good shoes effortlessly, but, on the contrary, does so through arduous effort and laboriousness, exercising virtues. In this sense, productive work can be described as craftsmanship, i.e., when production pursues excellence in the craft, producing the best of which one is capable in light of internal goods that reinforce the quest for production (Bull and Adam 2011).

In sum, the role of technology in industry is neither something deterministic, as it is in Marx, nor the goal of working, but rather an opportunity for employees' personal development, hand in hand with becoming the material cause for corruption of work. In the same vein, firms are not per se something bad; on the contrary, they represent an opportunity for moral thriving. Firms can be included within the realm of human common good, if they are organized in an excellent style (Table 11.3).

Conclusion

Besides their differences, both Smith and Marx offer a theory of work focused on the product, on the external result, instead on the human action. MacIntyre explains the work-technology relationship in a different perspective from the Enlightenment Liberalism and Marxism.

Table 11.3 Work-technology relationship and MacIntyre's organizational solution

Human-work/technology relationship	Organizational solution
<p>Work is a practice, a meaningful and thriving activity, sustained by the institution, which is the corporation</p> <p>Corporations are communities of work, where the employees seek common goods</p> <p>Technology is conceived as an external good. If corporations give prevalence to technology over personal work, they corrupt the practice of working</p> <p>Critic to Smith</p> <p>Smith's perspective rests on an individualistic conception of work, which can contribute to many forms of cooperative performance, but it cannot be oriented toward excellence when the common good remains outside the practical setting, and productive work is not sustained by fellowship</p> <p>The individualistic assessment of technology by Smith makes impossible, or at least much more difficult, to protect work as a practice from being corrupted by corporations</p> <p>To MacIntyre, Smith misses any conception of economic activity as capable of being cooperatively and intentionally directed toward the achievement of common goods</p>	<p>The organizational solution comes from inside the firm. The correct use of technology for enhancing employees is an essential responsibility of firms</p> <p>Technology must be at the service of workers, and oriented to excellence, aimed to facilitate the achieving of the common good of the firm</p> <p>Critic to Marx</p> <p>Marx considers technology as a necessary reinforcement of the specialization and the division of labor, increasing, therefore, the evils that capitalism brings to workers and society in general</p> <p>While Marx stood the idea of a technological determinism for assessing the morality of industry, MacIntyre opened the possibility for corporations to choose between corruption and excellence, no matter the nature of the technology used</p> <p>To MacIntyre, modern corporations are places where human thriving can take place</p>

In contrast to Smith, to MacIntyre virtues are not instrumental. It is true that more resourceful and imaginative workers can facilitate innovation and productivity. However, fostering imagination, innovation, and deliberation on the workers, it is good in itself, because it helps workers personal thriving, not because it increases profits. Technology must always have an instrumental role, and it is morally valuable when it helps workers to do their job oriented to other people's well-being, this is, to a common good.

Smith is aware that combination of technology and the division of labor can have negative moral impact on workers, but he does not make responsible of that to the corporation. MacIntyre's position is completely different: He sustains that firms are much more fellowships of work than mere form of professional cooperation and, as communities oriented to a common good, should give priority to moral development over productivity or profits. The correct use of technology for enhancing employees is an essential responsibility of firms.

In contrast to Marxism, the instrumental role of technology as an external good does not play a role in work development. In a MacIntyrean theory, the division of labor and specialization can be oriented to achieve excellent standards of work. In this sense, MacIntyre sees that firms—as Japanese firms—can be valuable in terms of virtue and excellence, not mere productivity, even though they produce based on a principle of division of labor, specialization, and advanced technology.

Accordingly, following MacIntyre, we claim that this style of excellence in modern corporations is something intrinsically good for work and society, if it is based on the understanding that technology is an instrumental resource for virtue, excellence, and common good. The ethics of MacIntyre opens the door to redefine a good capitalism based on excellent corporations and good work aimed to the common good.

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