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SPECIAL REPORT ON BUSINESS ETHICS

Moral Philosophy

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Virtue and Vice

Ethical behavior underpins social health and cohesion. Civilization runs on ethics the way cars run on gasoline. We may not behave ethically all the time, but if everybody consistently behaved unethically, we would no longer trust each other, and the bonds holding us together would break. The life of man would be "solitary, poor, nasty, brutish, and short," in the famous words of the English philosopher Thomas Hobbes.

The field of ethics, or moral philosophy, investigates theories and ways of thinking that can systematically describe what makes acts right or wrong. This report explores how to view business behavior through the lens of moral philosophy. This is an important subject because, as we shall see, most business decisions have profound moral implications. They affect the products and services we consume, the work we perform and the world we live in. That is why understanding moral philosophy is a critical part of doing business ethically.

This report is the second in a series of four special reports on business ethics, in collaboration with AKO Foundation. The first was on corporate governance. In this second report, we consider five themes as they pertain to business: Virtue and vice; power and pay; global citizenship; climate change; automation and robotics. In the first section, we begin by considering some of the moral issues that emerge in connection with businesses operating in many fields, including pharmaceuticals, and examine where the concepts of right and wrong fit into a discussion of business conduct.

Virtue and vice are more complex than they appear at first. What does "virtue" mean in a business context and to what extent should business decisions be based on goodness rather than profitability—or simple greed? "Vice" would seem to be a more straightforward term that describes certain types of illegal behavior when used in a business context, but greed is often thought of as a social vice that can lead to unethical results. A certain amount of greed might spur entrepreneurs to take risks and create businesses, but when taken to an extreme, it can victimize consumers and others, as the following example will show.

When Martin Shkreli was arrested on December 17, 2015 in the U.S. and charged with securities fraud, it brought to an end a brief and spectacular career as a hedge fund manager and founder of a pharmaceutical company. The charges against him were not the main focus of public interest (he was found guilty on three counts of securities fraud in August 2017) because Shkreli and Turing Pharmaceuticals had gained notoriety three months earlier. This was for acquiring from another company a 60-year-old drug called daraprim, used to treat patients with AIDS-related diseases, and then sharply increasing its price from $13.50 a pill to $750.

The case became infamous in the U.S. not only because of Shkreli's unabashed approach, but also because he seemed to epitomize one of the most controversial facets of a U.S. health care system in which drug companies, with few exceptions, are free to charge whatever prices they see fit. Unlike in most other major economies, in the U.S. pharmaceutical companies generally set prices at whatever the market will bear. If patients are sufficiently desperate and there are few alternatives, there is little to stop the manufacturer from charging extremely high prices for their medicine. It's all perfectly legal.

Shkreli claimed that Turing needed to increase prices to pay for research into improving the drug (although doctors did not seem to be clamoring for a better medicine). Daraprim's price increase might have been exorbitant, but other drug companies make the same argument to justify the high price of drugs in the U.S. How else to pay for research and development? Better that a rich nation, such as the U.S., foots the bill than poor countries, some would say.

The willingness and ability to charge a sky-high price for a medicine with few substitutes is not just a question of economics but also of ethics. At what point does an increase in price become excessive? Neither economics nor moral philosophy provides a clear-cut answer, but both disciplines come into play. The former would focus on the interplay of supply and demand, the latter on the virtue, or otherwise, of charging sky-high prices for a product that has few substitutes.

Shkreli appears to be an example of a businessman intent on pursuing his personal objectives to an amoral degree. But there is a brand of moral philosophy that extols self-interest, and we begin our survey of the different schools of thought with the branch of utilitarian philosophy known as ethical egoism (see sidebar, "Choosing Between the Right and the Good"). "The Virtue of Selfishness: A New Concept of Egoism", a 1964 collection of essays by the Russian-American writer Ayn Rand and Nathaniel Branden, argues that the proper moral purpose of one's life is the pursuit of one's own happiness and that the only social system consistent with this objective is laissez-faire capitalism.

Choosing Between the Right and the Good

At the heart of almost any ethical debate is a discussion of the right kinds of procedure and the good kinds of outcome. Ethical theories that analyze the right and the good are divided into two main types:

Teleological Theories. Teleological theories (from the Greek telos = goal) prioritize the good over the right. Consequentialism claims that the good outcome justifies or defines the right action. Utilitarianism is an example of a consequentialist theory that holds the outcomes in question to be agent neutral (that is, not definable in relationship to some particular person or the person making the decision). Egoism is an example of a consequentialist theory that endorses outcomes that are agent relative (where the good for the agent(s) making the decision is the decisive factor). Virtue ethics claims that the good (understood as good character) produces the right (action).

Procedural Theories. Procedural theories prioritize the right over the good.
Deontology claims that it is not primarily the consequences of adhering to a duty (i.e., the "right") that are crucial but rather respect for the duty as such, as an expression of what is right. Many deontologists emphasize the reasons we have for endorsing duties as crucial to deciding whether we act rightly.

From Indian philosophy we have chosen to highlight the school known as **Yoga/Bhakti**, which claims that the right (action) produces the good (outcome) and the right action is defined by a regulative ideal: the (gender-neutral) Lord, defined by "unconservative self-governance," which consists of a willingness to change oneself through perfection. The good in this case is the perfection of the practice, and the practice is defined by the ideal. So, when we perfect the practice, we bring about our own Lordship. It is a theory that is unique to the Indian tradition.

Many moral philosophers have dismissed ethical egoism, or at least the version espoused by Rand and Branden. Even so, there is no denying that it helps highlight a central question of business ethics. Is the capitalist system merely a means of creating wealth or does it have a higher purpose? The previous report in this series, "Enhancing Corporate Governance," examined the purpose of the firm. This report broadens the discussion to the economic system in which companies operate.

Before examining the relevance of business ethics today, it is worth providing a framework of the main approaches to the question of what makes actions right or wrong. These apply to all forms of moral philosophy, not just in the field of business, and they will be touched on throughout this report. Ethical questions tend to focus on two things: the process and the outcome. What are called teleological theories argue that a good outcome takes precedence over the right procedure. Procedural theories argue the opposite.

There are two main branches of teleological thought. One is consequentialism, which argues that the right action is understood entirely in terms of the consequences produced. A prime example of this strand of thought is utilitarianism, first fully developed by Jeremy Bentham (1748-1832), which argues that an action is right in so far as it promotes happiness, and that the greatest happiness of the greatest number should be the guiding principle of conduct. For ethical egoism, the scope of the consequences is confined to the interest of an individual; utilitarians, in contrast, maintain that one ought to maximize the overall good of society.

The second main branch of teleological thought is virtue ethics, which claims that a good, moral character produces the right action. The classical philosophers Plato and Aristotle are widely regarded as the founders of virtue ethics in the West, while Confucius and Mencius developed their distinctive theories of virtue in the East.

Procedural theories of ethics prioritize the right process over the good outcome and are also divided in two main strands. One is deontology which argues that the right procedure justifies the good, a view most closely associated with the 18th century German philosopher Immanuel Kant. The other philosophy, far less well-known in the West, is the yoga/bhakti tradition in India, which says that the right action, perfected through the practice defined by the ideal, produces the good result.

These different strands of thought will be explained in more detail in the rest of the report, but even at a cursory level it should be clear that business conduct can be examined ethically in terms of the process by which

The terms "business" and "moral philosophy" are thought by some to be mutually exclusive, yet moral judgments are applied every day to the behavior of business people and the companies they represent.

goods and services are produced and the result in terms of such things as profits, employment and customer satisfaction. Put another way, the terms "business" and "moral philosophy" are thought by some to be mutually exclusive, yet moral judgments are applied every day to the behavior of businesspeople and the companies they represent. This is understandable. The power of corporations is perceived to be growing in relation to that of individuals and other forms of organization. The question of how this power is wielded has a moral dimension, as we shall discuss in this report.

The concepts of business and moral philosophy should therefore be considered together now, perhaps more than ever, when people's trust in corporate behavior is at such a low ebb. Edelman Intelligence, part of a U.S. public relations firm, found in its 2016 global survey of 33,000 respondents that only 52% say they trust business to do what is right and a mere 37% found CEOs credible. The presence of trust in commercial relationships oils the wheels of capitalism, and a lack of it is corrosive.

Marjorie Kelly is the executive vice-president of The Democracy Collaborative, a non-profit, and co-founded Business Ethics magazine in 1987 to promote the idea of corporate responsibility. Over the years, she has watched business ethics wax and wane as a topic among boardrooms and the public. During this time, capitalism has been rocked by corporate accounting scandals, tax-minimization strategies, and a global financial crisis based on unsound lending practices that were in many cases exploitative. "I have come to see that the issue of ethics drives to the core purpose of a company. And that arises out of, and is protected by, the governance structure," says Kelly. "If only stockholders have a seat at the table of governance, their interests are going to be the ones that are heard. So, I came to see that fundamental company design is where ethics needs to reside, if we're going to be serious about it."

Kelly applies her ethical viewpoint to current business problems and discusses these topics with companies. Academic moral philosophers rarely engage with corporate leaders directly. Yet they say they can make a distinctive contribution to the debate over where capitalism is heading. David Silver, chair in business and professional ethics at the UBC Sauder School of Business in Vancouver, says moral philosophy can help demarcate the playing field. "Business ethics is about how you treat people. At its best, its aim is to figure out how to humanize capitalism. It's not to tear it down; it has to figure out the boundaries."

Other philosophers share the view that business ethics is, at base, about money and people. "The arguments in favor of capitalism are usually not moral but economic: It's a more efficient means of producing wealth," says Shyam Ranganathan, professor of philosophy at York University in Toronto. "The problem with this argument is that it ignores the fact that the real means of the production of wealth is not capital but people, who work either as investors or employees."

Among his writings, Ranganathan has translated into English "Patañjali's Yoga Sutra", a second century text of one of the main schools of Indian philosophy. It has helped inform his view of ethics in general and business ethics, in particular. Yoga, bhakti (discipline, devotion) is an agent-centered theory of ethics that aims to realize the ideal of gender-neutral "lordliness" in what he calls "unconservative self-governance", unshackled by past preconceptions, free to make new decisions in light of the practical challenges ahead and capable of implementing them. "Philosophically, the idea of being prosperous is a central part of this idea of lordliness. There's no sense to lordship in our own life if we're not prosperous. So, prosperity has to be part of what makes our life thrive. It's not going to be a life where we are somehow sacrificing ourselves or our interests; it's a life of prosperity," he says. "If I make that happen, I've created an environment where others can thrive."

Yoga shares many of the ideals of Western business ethics, but they are attained in radically different ways. It takes the opposite tack from the 18th century Scottish philosopher David Hume, "who said that the only room for reason in practical matters is to be 'a slave of the passions', which means there's no way to criticize your preferences," says Ranganathan. "We need to show that that's actually not reasonable at all, because it doesn't jell with what you need to do in order to live a life that allows you to thrive. When you are committed to your own unconservative self-governance, it's a life where you don't think in terms of your subjective preferences, but in terms of constantly revolutionizing yourself so you're not stuck with your old preferences. You allow yourself to adapt in a manner that allows you to thrive."

An 1,800-year-old philosophy may seem far removed from the ethical problems that face today's companies, but they can offer a fresh perspective on how to conduct business. The ideal of lordliness in second-century India sounds similar to modern-day entrepreneurial aspirations. "The main difference with something like yoga, bhakti is that it will force you to see this as a kind of group project and not an individual thing," says Ranganathan.

As it happens, the most important Western philosopher who broke with the theories of Hume was the deontologist Immanuel Kant (1724-1804), a German. Whereas Hume argued that reason was the result of human feelings, Kant emphasized that morality is founded on rational principles (expressed in terms of what he called "the categorical imperative") that can be known irrespective of the outcome of a particular action. It is immoral to tell somebody their job is terminated because the post is no longer needed and then give the job to somebody else; one doesn't have to see the consequences to know this.

Kant's moral theory is relevant in business today. It provides companies and employees with firm principles to follow that do not depend on circumstances.

Kant's moral theory is relevant in business today. It provides companies and employees with firm principles to follow that do not depend on circumstances. Unlike utilitarianism, it does not treat people as a means to an end and it argues that decision making rests on the individual. And it stresses that an action has moral value if it is done from a desire to do the right thing for its own sake, regardless of the consequences. Kant's categorical imperative is closely related to the Golden Rule, a concept that is part of many religions and ethical traditions. The latter consists in the injunction to treat others as one would like others to treat oneself, a form of reciprocity that can be applied in business, as in many other forms of human discourse.

These notions may seem somewhat out-of-date at a time when basic concepts of truth and falsehood appear under threat. But this may be part of their attractiveness. Robert Hughes, a professor of legal studies and business ethics at Wharton, says that the relevance of moral arguments to modern business is unquestionable. "Business people face difficult ethical decisions all the time. In a negotiation, what would be honest and what would be objectionably deceptive? There are hard questions about what is fair and what is exploitative. Must my firm follow every law all of the time, or are there times when it's morally OK to treat the possibility of fines and sanctions as a cost of doing business?" he says. "Moral philosophy provides analytical tools for reasoning through these hard cases about which people disagree."

An example of this in business ethics is what is called mutually beneficial, consensual exploitation. Suppose a merchant ship outside port loses the use of its rudder as a storm was brewing. A tugboat operator offers to pull the ship to port for an exorbitant price. Is it morally acceptable for the tugboat operator to drive a hard bargain, or is it wrongfully exploitative to take advantage of the ship's distress? Suppose the ship's captain agrees, promising to pay when it is safely berthed, but then reneges on the deal. The tugboat captain takes the ship's owner to court. How should the case be judged?

A mentor of Hughes's was Alan Wertheimer, who was first a professor at the University of Vermont and then a senior research scholar at the National Institutes of Health. Wertheimer argues that mutually beneficial, consensual exploitation is possible. It is wrong for the tugboat operator to demand too high a price, even if the ship captain consents.

Likewise, wages can be unfairly low even though employees agree to them. Whether mutually beneficial, consensual exploitation should be legally regulated depends on the effects of regulation. "If the imposition of a minimum wage would result in a lot of people losing their jobs and only a few people getting a wage increase, what's the point?" asks Hughes. "If, though, raising the minimum wage would result in a lot of people getting paid more and nobody or only a few people losing their jobs, then a minimum wage might make sense. There's a very difficult moral question about how we should make those trade-offs when we're in the mucky middle."

In many cases, the morality of a business decision is clear-cut. The choice is either to do the right thing or choose not to. But there are many other examples where businesspeople find themselves in the mucky middle. Brian Berkey, also a professor of legal studies and business ethics at Wharton, says there is a continuous dialog between principles and practice in his teaching of ethics. "Often we find that our judgments about the principles that seem plausible don't line up with the judgments about the business cases that we're examining. And so, when there's a conflict we need to figure out, do we abandon the judgments about the cases because we're more convinced that the principle was correct? Or do we adjust the principle?"

In this first section, we have looked at some of the major schools of moral philosophy and how they relate to an understanding of business conduct. Theories of moral right and wrong often make fine distinctions that even philosophers may struggle to apply in the real world, where business people frequently face moral dilemmas. Business ethics often involves trade-offs, much as economics does. The next section will examine some of those situations where a moral choice is difficult with regard to the distribution of pay and power. ■

Pay and Power

According to Sir Winston Churchill, "It has been said that democracy is the worst form of government, except all the others that have been tried." By a neat symmetry, the same could be said about capitalism—especially with regard to the inequality of wealth and income spawned by the global economic system. In the 20th century, other, supposedly more egalitarian, economic systems were tested and failed, most notably communism. Now, capitalism is by far the dominant economic system, and ethicists continue to wrestle with the issue of whether it is unfair and, therefore, in some sense immoral. In the first section, we examined issues of right and wrong, considering what constitutes ethical behavior in business. In this second section, the perspective shifts to consider fairness, which is a fundamental concept of morality. Is capitalism fair?

Seen at a global level, capitalism has not only delivered the goods, as it were, but it has also led to a dramatic reduction in abject poverty. By some estimates, the number of people living in extreme poverty has declined drastically, from 2.2 billion in 1970 to 700 million in 2015. This is an extraordinary achievement for an economic system that seemed threatened with extinction during the Great Depression of the 1930s. Yet in many individual countries, especially industrialized ones, such as the U.S., economic inequality has widened sharply in recent decades. Post-tax household income for the top 1% of the population rose more than 4.6 times faster between 1970 and 2014 than for the bottom 50%. Increases in executive salaries and other emoluments in the U.S. and elsewhere have also far outstripped worker remuneration over the same period.

One doesn't have to be an ethicist to believe that there is something deeply wrong when the combined assets of the three wealthiest individuals in the world exceed those of the poorest 750 million. Some people would argue that the capitalist system is inherently unfair and needs to be changed. Others say that inequality is the inevitable consequence of economic development, and that what matters is providing sufficient opportunities for people to better themselves. For them, greater income mobility is the answer.

Moral philosophers have tended to leave the question of how to make the system less unfair to economists and others; instead, they focus on what fairness means and consider the ethical issues raised by a society's distribution of wealth, income, status and power. Utilitarians, for example, will prefer whichever economic system produces the most good for society as a whole. Although some may believe that a reduction in income disparities is more likely to maximize happiness than an increase, other utilitarians may just as easily argue that greater inequality may lead to more overall happiness. And it depends on what one means by society and what one means by happiness. Global poverty has declined, but income inequality in many countries has gone up.

By contrast, libertarians, such as the late philosopher Robert Nozick, who taught at Harvard, tend to regard liberty as the primary value of society and to contend that justice consists in permitting each person to live as he or she pleases, free from the interference of others. Nozick extols the view that the distribution of goods, money and property is just if people are entitled to what they have, and have acquired these assets without violating others' rights. The free market tends to reward people for skill, diligence and successful performance. It should be kept untrammeled so that people can exercise their fundamental rights.

Unfortunately, free markets can have disastrous results. Amartya Sen, a Nobel Prize-winning economist, has shown that mass starvation has occurred in countries, such as Ethiopia in 1973, because people lacked the money to pay for food, not because there was a widespread shortage of it. "Libertarianism is not really able to deal with a very unequal resource endowment among people," says Marc Fleurbaey, professor in economics and humanistic studies at Princeton University. "The normal libertarian reaction is to say that private charity should take care of that. But, of course, there is no guarantee that private charity will operate as it should. And so Nozick found a way to get around the difficulty by saying that the current division of wealth is probably unfair because there has been so much theft, crime, colonialism and slavery in the past that we should compensate those who have suffered for past iniquities. Nozick proposed, as a rule of thumb, to consider the currently deprived people as the most likely victims of previous such violations of rights."

The most influential philosophy of fairness in recent decades was expounded by John Rawls in his book, *A Theory of Justice*, published in 1971. He begins with a thought experiment in which people meet in what he calls "the original position" to choose the basic principles to govern society. People choose on the basis of self-interest, but they are behind "a veil of ignorance" with no personal

Companies are microcosms of the larger society and pay differentials within firms mirror the wider trends.

information about themselves or their relative position in society. Rawls argues that people in the original position would agree on two principles of justice. The first is a guarantee of certain fundamental liberties to each person. The second is that social and economic inequalities are justified only if those inequalities benefit the most disadvantaged members of society. Imagine two pies, a smaller one with equal slices and a larger one with unequal slices, in which the smallest slice is larger than those in the smaller pie. Clearly the larger pie would yield a better result, even for the least well-off.

Rawls rejects utilitarianism on the ground that maximizing the total well-being of society may permit an unfair distribution of benefits and hardships. A utilitarian would say that a decrease of happiness for one person may be justified by the greater happiness of another. But Rawls is equally critical of libertarianism, arguing that the primary focus of justice should be on the basic social structure, not transactions between individuals. Society, he says, is a cooperative project for mutual benefit, and justice requires us to reduce the economic consequences of arbitrary, natural differences among individuals.

Companies are microcosms of the larger society, and pay differentials within firms mirror the wider trends. A study published by the Equality Trust, a non-profit, in March 2017 found that the average remuneration of CEOs at the UK's top 100 public companies was 386 times higher than that of a worker living on the National Living Wage of £7.20 an hour. Similarly wide pay gaps have been estimated among firms in other countries, such as the U.S. Rawls did not comment specifically on the disparity of remuneration in companies, although he did examine the relationship between envy and equality, and argued that self-respect is an important building block in the social structure. Indeed, many have noted the corrosive effect of such pay differentials on society, especially if we assume that people have to cooperate to some degree to develop the economy.

At the microeconomic level, it may seem that individual companies are constrained as to how far they can narrow the gap between pay at the top and the bottom. The assumption is that, to compete, they must reward handsomely to attract the best talent for senior positions and, at the bottom, paying workers significantly more than other companies in the same industry will reduce profits and weaken competitiveness. Even within these constraints, there is room for improvement, say some moral philosophers. Richard Miller, a professor in the Philosophy department at Cornell University, has focused on the moral significance of economic inequality. To him, it is possible to lift the pay and conditions of workers on the bottom rung. "I very much admire business people who seek ways of improving wages and working conditions without reducing net revenue," Miller says. "Sometimes, such improvements are possible, enhancing loyalty to the firm and mobilizing workers' initiative, responsibility and teamwork."

One seemingly unlikely example is Walmart, the U.S. retail company that employs 2.3 million people worldwide, which has been criticized for many years for paying its hourly associates low wages. David Silver, who holds the chair in business and professional ethics at the UBC Sauder School of Business, has noted positive changes at the company, among them Walmart's decision in 2014 to partner with the Fair Food Program to improve pay and worker conditions among farmworkers in Florida and seven other states. "I use it as an example in my ethics class, not of a perfect company, but to show that it's possible to improve," he says.

A focus on the distribution of the gains from capitalism has, to some, diverted attention away from an equally important focus for philosophical discussion, the distribution of power. In terms of the evolution of capitalism, the question of who has power and how it is wielded is more important than the issue of wages, says Fleurbaey. "It is really strange in the 21st century that people are citizens and can vote and choose their leaders in politics, but in their work, they have to obey the orders of the boss," he says. "When workers are treated like partners rather than servants, this leads to a higher level of trust and a higher level of engagement of the labor force. It also tends to generate a narrower pay gap, because when the structure of rewards is under the control of the stakeholders, the process of setting executive pay tends to be more transparent."

One such stakeholder group, of course, is investors. Although CEO pay continues to surge, often buoyed by rising share prices, some companies, such as Pearson, AstraZeneca and Bombardier, have faced shareholder revolts against planned-for increases in executive remuneration. In the U.S., the idea that a corporation has as its purpose to maximize financial gain for its shareholders was first articulated in Dodge v. Ford Motor Company in 1919, in which the Michigan Supreme Court determined that Henry Ford had to operate his car company in the interests of its shareholders, rather than for the benefit of employees or customers. It is widely seen as an assertion of the primacy of shareholders in corporate America.

It is worth noting that, from an ethical standpoint, the interest of shareholders can work both ways. Some investors want short-term profits, with little thought for the sustainability of the business model, while others hold shares for the long haul. The latter may place a strong emphasis on social, environmental and ethical issues, because they see their long-term interest served by investing in companies that focus on the objectives of society at large and not just those of the owners and senior management.

A century later, company executives often see themselves as subservient to the almighty financial markets. Marjorie Kelly, executive vice-president of The Democracy Collaborative, a non-profit, and co-founder of Business Ethics magazine, has long been a critic of the way share ownership often fails to build corporate social responsibility. She remembers a conversation with Bill George, the CEO of Medtronic from 1991 to 2001, about the "dictatorship of the market." "I asked him, 'How do you as a CEO feel these pressures?' And he said, 'If you miss your earnings target by a penny or two, your stock can go down by 25%.' You don't want to go on CNN and be made fun of for having missed your earnings targets and your stock falling. So there's this kind of collective shaming, not to mention being fired and your stock options being worthless. There's a lot of pressure on CEOs to keep those earnings up, by whatever means necessary," says Kelly.

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Outwardly, large corporations appear all-powerful. But inwardly, the feeling seems quite different, says Chris Chapple, a partner at BDO, an accountancy and business advisory firm in London, and author of the book, *The Moral Responsibilities of Companies*. He says, "There is no line of sight between individual intentions and corporate actions. Talking to CEOs or to chairmen, these individuals often have a great sense of powerlessness. They don't feel that the organization is being run in their interests. They feel they are being dominated by the shareholders; the shareholders feel that they have lost power to the executives, and someone else is blaming the government. Nobody feels that they are in control."

European philosophers, such as Fleurbaey, often take a different approach from the Anglo-Saxon tendency to extol the primacy of shareholders and the free market. Another academic with a more European view is Lisa Herzog at the Bavarian School of Public Policy in Munich. She says, "Lots of moral questions have to do with unequal power structures and the abuse of power. If we imagine the economy as a realm in which there is no power, because it's all just competition and free entry and exit, then we overlook quite a few of these dimensions." The distribution of resources is important, of course, but "the recent rise of populism shows there is something about people feeling that they're becoming the playthings of global forces that are under no one's control."

Arguments in favor of a more equitable distribution of power are not identical to ones favoring narrowing income differentials. Herzog does not think that all problems will be solved with a universal basic income in which all citizens or residents of a country receive an unconditional sum of money, either from a government or some other public institution, to ensure everybody has a financial safety net. "In a sense, this could be very dangerous, because it could leave all the power structures in the economy in place and just give people enough to survive. But it could also be quite positive, because people know that they're not going to fall into a black hole if they lose a job," she says. In a 2016 referendum, Swiss voters rejected a proposal to introduce a guaranteed basic income for all, but the idea will persist. Facebook co-founder Mark Zuckerberg is in favor of the measure, for example.

Herzog recently presented a paper on workplace democracy in Denmark and she recalls the reaction of an

Ethicists have many different points of view about pay and power in capitalist society. They agree, however, that the debate over inequality should not be left to politicians and social scientists.

American colleague who said, "'Why think about democracy at work in the first place? If I own a company, and I can hire someone, why should I ever want to give them democratic rights? And if they don't like what I do, they can just leave. They don't have to work for me forever.' So the picture presented was one where individuals are contracting with each other, having at least roughly equal exit opportunities. And if the employee doesn't like the company strategy or whatever, he would just leave."

She continues: "Work contracts are not just like choosing between two different kinds of yogurt. It's about getting an income in the first place. It's about how you spend a huge amount of your time. It's about having a job versus what Germans call having a *Beruf*, a vocation. It's part of your identity. In the German tradition, a job is something that's meaningful to you and that matters, and therefore you want to have some degree of say over what's going on at the company."

She cites Albert Hirschman, a German-born political economist, who developed the idea that a member of an organization, such as an employee, has two possible responses to what they see as an unsatisfactory workplace: They can exit or they can voice their disapproval in an effort to improve conditions. "One way of thinking about the questions of responsibility, morality and democracy in the market is to think about how we can improve matters by using our voice in different places in the economic system," says Herzog. "Instead of just saying, 'We can always leave,' the voice is a political mechanism, which is about discussing, explaining what you don't like, and maybe finding solutions together."

It is clear that ethicists have many different points of view about pay and power in capitalist society. One thing they agree on, however, is that the debate over inequality should not be left to politicians and social scientists. As in so many aspects of business, the issue is fundamentally a moral question, whether practitioners of other intellectual disciplines like it or not. In the next section we turn to globalization, a phenomenon that has ancient roots and a trend that has accelerated since the end of the Cold War, accentuating the extremes of wealth and poverty, while narrowing them in some respects, too. ■

Global Citizenship

In the second section, we looked at capitalism through an ethical lens and highlighted the fact that some moral philosophers focus on the way in which power is distributed, as a way of shedding light on how the benefits of business are shared. In this third section, the focus is on globalization, a trend that has accelerated inequalities in some respects and shifted the balance of power, notably to China. What better place to start, then, than with a Chinese philosopher to talk about Confucianism, a moral philosophy that some say is as relevant today as it was 2,500 years ago.

The U.S. practice of going after corporations as criminals is steeped in a long legal history that believes businesses bear moral responsibility for their actions. Companies are criminally liable because they are deemed to be moral agencies and thus have to answer for misdeeds. Without that assumption, it would be tantamount to filing charges against a knife for injuring a cook. "In the U.S., it has been accepted for many years now that you can sue a corporation or any other business for a criminal act," says Eric Orts, Wharton professor of legal studies, business ethics and management who is co-editing the upcoming book *The Moral Responsibility of Firms*.

Bai Tongdong, a professor at Fudan University in Shanghai, describes himself as a mainland new Confucian, to distinguish his views from overseas new Confucianism that developed outside China in the early 20th century. The latter focuses on the spiritual aspect of Confucianism, whereas Bai focuses more on the political aspect. He argues that, in a more secular vein, Confucianism can be made compatible with certain aspects of liberal democracy, and more importantly, there are Confucian-based political models that can serve as better alternatives to the contemporary liberal democratic order. (These branches of thought are not to be confused with neo-Confucianism, which emerged in China about 1,200 years ago, long after Confucius was alive in 551-479 BC.)

> *Confucianism has much to teach about business ethics as well as politics.*

"I try to argue that, based on some early Confucian ideas, we can develop political institutions that are still viable today, not only for China, but for the rest of the world, as well," says Bai. He believes that Confucianism has much to teach about business ethics as well as politics. Chinese traditions have been under attack in China for the past 150 years, he says, with the result that, "My own very pessimistic view is that today's Chinese businesspeople probably don't have any great sense of morals when they do business. One important issue in the business world is that people make profits with no regard for others and future generations." But there is reason for hope, because he says that a lot of Chinese business people are taking courses in traditional learning, some of whom Bai teaches.

Similar to the teachings of Aristotle, Confucianism represents a branch of ethics which, unlike deontological and consequentialist theories, is less concerned with individual actions than with developing persons of good character, who have attained certain virtues. Bai says the main social institution for developing these virtues is the family, which is the primary place where one learns how to go beyond the mere self and to care about others. " Confucians say if we can start from the family and push this care outward, eventually we can embrace the whole world. From this theory we can develop some ideas for business ethics."

Seen in this light, a company would seem a natural extension of the family model, albeit on a large scale. As an example of a firm that pushes care outward, Bai cites the Haidilao company in China, a large chain of restaurants that specialize in hot pot cuisine. Haidilao is known widely on the mainland, not only for its delicious food but the high quality of its service. While patrons wait for a table, they are offered a free massage, a manicure or a shoe shine.

Haidilao started out in 1994 in a small county in Szechuan province, hiring all the staff from the same area. Since then, it has expanded to more than 50 cities in China and has restaurants in Singapore and Seoul, with plans to expand in the U.S., where it has already set up shop in Los Angeles. Now Haidilao is so widely dispersed, it cannot hire from a single county, but "it tries to hire people from the same villages, from the same families," says Bai. "The beauty of the company is that people feel a sense of connection." Contrast this, he says, with Hon Hai Precision Industry, aka Foxconn, assembler of electronics for Apple and Nintendo, which became well known for its intensive work schedules that led to at least 14 suicides at its plants in China. "They don't employ people who have the same dialect that they can share stories with, so they can become very lonely," he says.

Both Haidilao and Foxconn are examples of the effects of globalization, the former drawing strength from its founding principles while expanding overseas, the latter striving within a brutally competitive industry to hold on to some of the most powerful corporate customers in the world. International trade and investment add more layers of complexity to the moral dilemmas companies face in their home market.

To what extent should multinationals apply a uniform ethical code to their operations around the world and how far should they go to conform to the rules and mores of overseas markets? Some would say that global companies should raise the ethical bar to the highest possible level and apply it across the board. But taking a more pragmatic view might add to human happiness, not detract from it. Bai regrets that Google pulled its search engine out of China in 2010 after a disagreement with Beijing over strict Chinese censorship rules. "A morally compromised Google is still better than Chinese search engines that have no moral scruples whatsoever," says Bai.

As a Chinese philosopher aiming to blend Western and Eastern thinking, Bai cites what John Rawls in his book, *A Theory of Justice*, refers to as the overlapping consensus, whereby ethical doctrines can differ on key tenets but still agree on some basic principles of justice. Monotheistic religions, for example, agree that ethical standards are the creation of God's will, a branch of deontology. Bai sees philosophical common ground where others see separation. He says, "Confucians don't agree with Americans that free speech is sacred. But if you say that free speech is crucial to good governance, by encouraging discussion to promote better ways to govern, then Confucians will say free speech is also important, though not as a right." The same could apply in business: Confucian virtues of caring for others and for future generations fit well with a sense, shared by many companies around the world, of corporate citizenship and concern for the environment.

Haidilao is an example of expanding worldwide while staying faithful to core principles, but globalization is accelerating trends that seem to work in the opposite direction. BDO's Chris Chapple points to the timeliness of the book, *The Road to Somewhere: The Populist Revolt and the Future of Politics*, by David Goodhart, who draws a sharp distinction between "somewhere" people rooted in a particular place and "anywhere" people who move easily from one international metropolis to another. Chapple says that global corporations resemble the latter. "You can very easily see how technology-driven mobility is outstripping any capacity we have to regulate and impose taxes on corporations. They don't really belong in any state, they are almost totally mobile. With all these questions of sanctions, responsibility and rootedness in a community, the biggest challenge going forward is how to inculcate a sense of corporate citizenship into companies that could get up and leave tomorrow," says Chapple.

This suggests that assembly-line workers and CEOs, referred to in the previous section, are not the only ones feeling powerless. Even strong nations may have difficulty bringing global companies to heel. One example is the ability of multinationals to avoid paying taxes, by accounting for their profits in jurisdictions with low taxes or generous write-offs. The practice of locating a corporation's legal domicile to a lower-taxed nation is known in the U.S. as inversion. The U.S. government has complained for years that American corporations are evading their fiscal responsibilities in this way, placing an unfair burden on individual taxpayers who cannot exploit loopholes in the law. Citizens for Tax Justice, a U.S. advocacy group, estimated in 2016 that $2.5 trillion in profits of U.S. companies were held offshore, which permits them to avoid up to $718 billion in taxes. The U.S. is not the only government that wants companies to do their duty. In August 2016, the EU ordered Ireland to collect $13.9 billion in back taxes from Apple because it allowed the company to create stateless corporate entities that enabled the technology company to decide how much tax it paid.

Princeton's David Silver takes a strong stand against such practices. He argues that the practice of inversion is little different from nullification, a legal theory in the U.S., never upheld in federal courts, that a state has the right to nullify any federal law which that state deems to be unconstitutional. "It was what some of the Southern states

Global companies should raise the ethical bar to the highest possible level and apply it across the board.

Globalization may seem to make it easier for companies to wriggle free from their fiscal duty but it also places a greater moral burden on them.

said with respect to federal laws, especially regarding anti-slavery moves. They say, ’We don’t like your laws, we’re not going to follow them.’ And that’s essentially what corporations do with tax laws; they find ways to say, ‘You have a rate of 35%? That’s interesting. We don’t like it. We’re not going to follow it,’” Silver says. “Setting up such tax schemes is profoundly undemocratic.” He argues that companies should operate in a tax-efficient manner, but not by getting around the rules.

Some would say two separate questions are at issue. One is, how should the tax law change to obtain fairly and efficiently tax revenues required to run the government and have a fair distribution of economic resources? The other is, if tax laws contain loopholes, is it ethical to take advantage of those loopholes? As many companies have found, inversion may be perfectly legal, but its ethical status is a matter of debate.

There is a broader issue with regard to various types of regulatory arbitrage, whereby companies set up operations in countries where the rules governing such things as pollution controls and labor relations are weakly enforced. An example is the case of a building that collapsed not far from the capital of Bangladesh in 2013, causing the death of more than 1,100 people, mainly garment workers employed by companies exporting clothing for well-known brands such as Benetton. Not only were the Bangladeshi building codes poorly policed, but also the employees were reported to have been told to continue working, even though cracks had appeared in the building. The result of ignoring building codes was disastrous for the companies involved and deadly for the employees. “In most cases, when there is a law that’s wrong to break, it’s also wrong to facilitate the breaking of that law or to have a business model that relies on that law being broken,” says Robert Hughes, a professor of legal studies and business ethics at Wharton.

Globalization may seem to make it easier for companies to wriggle free from their fiscal duty, but it also places a greater moral burden on them. The ability of companies to shift their operations and their domiciles from one country to another changes the balance of moral responsibility, says Lisa Herzog of the Bavarian School of Public Policy in Munich. “The German economy is highly regulated and so many moral questions are simply taken care of by legal regulation. But this is not a model that can continue indefinitely if you have a globalized economy. This shifts more responsibility for good behavior to boards of directors and companies,” she says.

But some are not prepared to give governments a free pass in such an internationalized economy. Richard Miller, author of *Globalizing Justice: The Ethics of Poverty and Power*, says “There is an underlying moral principle of sympathy that everybody should be disposed to help people to an extent that doesn’t make one’s own life worse. But there are substantial additional transnational duties of the U.S. and, to some extent, other countries as well. Past damage done, in wars, say, creates duties of repair. The shaping of foreign economies — for example, through ’structural adjustment’ requirements and the pressures that produced the current trade regime in the Uruguay Round — creates responsibilities to those whose lives are affected, just as the shaping of fellow-citizens’ lives creates responsibilities for their well-being.” Those transnational duties fall on citizens and their governments.

As Hughes points out, “There has been a major debate over the past 20 years in moral and political philosophy about the scope of distributive justice. Is distributive justice only concerned with distribution within a nation, or can economic inequalities between and among countries also be unjust? Statists argue that only inequalities within a country can raise concerns about economic justice (though there may be humanitarian reasons to help the poor abroad). Cosmopolitans argue that the global distribution of economic resources can be unjust.”

Miller sees this as something of a false dichotomy. “Morally speaking, it’s important to see that there are these common roots of the duty to fellow citizens and the duty to foreigners,” he says. “There is a shared underlying duty of concern and of responsibility to those whose lives are affected by one's government, at home and abroad." Clearly, the political trend in the U.S. and some other countries in the past few years have been to focus on the former rather than the latter. At some point, though, the balance may tilt the other way.

As was noted in section one (Virtue and Vice), business ethics is about the effect of capitalism and companies on people; the process and the outcome are indissolubly linked. Whether the person is an investor, an employee, an executive, a supplier or a customer, what many want to know is what sort of company they are dealing with and whether its ethical standards are high enough to operate with integrity in a global economy. These days, many would argue that it is not sufficient to focus on a company's domestic constituency, but that corporate leaders, inspired by business ideals, should take more global responsibility for their actions. This would help counter the charge of double standards that is often leveled at big multinational corporations.

This section has highlighted some of the moral dilemmas regarding globalization, in particular the ability of some companies to move their operations and legal domiciles, so as to reduce their tax and regulatory burden. Because it is now easier than ever to move capital, labor and technology around the world, it raises the question of accountability. To whom, ultimately, are multinational corporations responsible? The workers and taxpayers of their country of origin? Or to no country at all?

The question of responsibility comes to the fore, also, in the next section on climate change. We are all, whether individuals, organizations, or governments, responsible for the perilous state of our planet. If we do not take action quickly, at every level of society, the sea level may rise and, to take one effect, swamp hundreds of cities that lie along our coastline. Climate change is as much a moral dilemma as a social and economic one. And moral philosophers can help us understand and navigate the complexity of the task facing us to halt or reverse the ecological trend. ■

Climate Change

All the great questions of humanity, such as those around war, slavery, poverty, disease, have an ethical dimension. As we noted in previous sections, inequality and globalization raise profound moral issues for business. Climate change is no different. The Earth and all living things on it face an existential threat from global warming and it will take all our intellectual resources to prevent the geological epoch known as the Anthropocene era from ending life as it is currently understood. Ethical theory may not ultimately provide a solution to the problem of environmental sustainability; the natural sciences, economics and politics may be the main focal points of debate over climate policy. But moral philosophy helps frame the issues and enables people to think more clearly about the solutions.

This view is not accepted by all, however. David Weisbach, professor of law at the University of Chicago, has argued in *Debating Climate Ethics* (2016) that ethical theories are not well-suited to addressing climate change, since they suffer from problems of internal logic and offer infeasible strategies to solve the problem. Instead, climate policy should focus on the common interest of devising policies that reduce carbon emissions and prevent environmental harm. At a microeconomic level, this raises the question of whether environmental sustainability simply makes good business sense for companies, or if it has a moral dimension that executives need to heed.

Weisbach's co-author, Stephen Gardiner, a professor of philosophy at the University of Washington, takes the opposite tack: He believes that climate policy that ignores ethics risks solving the "wrong" problem. Ethical concerns, such as justice, rights, political legitimacy and the human relationship with nature are at the heart of many decisions that need to be made about climate change, he notes.

In a separate book, *A Perfect Moral Storm: The Ethical Tragedy of Climate Change*, (2013) Gardiner offers a philosophical analysis that, by describing the nature of the problem, shows clearly why it is so difficult to solve. He places his argument in the tradition of virtue theory that seeks to identify the characteristic "temptations" present in certain situations, where these are understood as tendencies to behave immorally. This process of thinking helps people to ponder how to resist acting badly and to understand themselves as moral agents, he says.

Climate policy that ignores ethics risks solving the wrong problem.

In Gardiner's view, the particular features of the problem of climate change pose substantial obstacles to people's ability to make the hard choices needed to address them. Three 'storms,' one global, one intergenerational, and one theoretical, conspire to exacerbate, in his words, "a lurking problem of moral corruption" that makes it extremely difficult to deal with climate change.

The global storm is characterized by the geographical dispersion of cause and effect and by the fact that climate change is caused by a huge number of individuals and organizations. Reminiscent of the theory of the prisoner's dilemma, it is collectively rational to cooperate to restrict pollution, but individually rational not to do so and to free-ride on the actions of others. Appropriate action is made even harder by the fact that the world lacks a strong institutional mechanism to enforce any global deal to restrict carbon dioxide emissions.

The intergenerational storm describes the time-sensitive facets of the problem. Carbon dioxide can hang around in the earth's atmosphere for hundreds of years. This makes it hard to grasp the connection between cause and effect, while the political institutions that would have to tackle the problem tend to focus on short-term considerations. What is more, the bad effects of current emissions are likely to fall on future generations, whereas the benefits of emissions are received in the present. And each new generation will face the same incentive structure as it decides whether or not to act (the "tyranny of the contemporary," Gardiner calls it).

The theoretical storm refers to the difficulty of addressing long-term problems because we are "extremely ill-equipped to deal with many of the problems characteristic of the long-term future," Gardiner writes. "Even our best moral and political theories face fundamental and often severe difficulties addressing basic issues such as intergenerational equity, international justice, scientific uncertainty, contingent persons, and the human relationship to animals and nature more generally. But climate change involves all these matters and more." One aspect is the scientific uncertainty about the rate of climate change, its impact, and the most effective ways of tackling the problem.

It would be hard to find an ethicist who would argue that companies do not have a moral responsibility to play their part in preventing a dangerous rise in global temperatures, although this may undermine their business model.

These three dimensions, taken together, would make it hard enough to develop a successful strategy to deal with climate change, but there is a further problem that Gardiner describes as "moral corruption," such as complacency, delusion, hypocrisy and distraction. One instance is paying attention to the problem selectively and ignoring some of the more difficult considerations. A focus on global issues that impede taking action, for example, tends to deflect attention from intergenerational issues that demand action. This "provides each generation with the cover under which it can seem to be taking the issue seriously," he writes, "when really it is simply exploiting its temporal position."

The current state of global climate policy would seem to fit well into Gardiner's philosophical framework. The Paris agreement on climate change was adopted by the consensus of 195 countries in 2015 and ratified by 147 as of May 2017. It was hailed by some as the world's first comprehensive climate agreement, but the carbon-emission curbs lack a binding enforcement mechanism. And the United Nations Environment Program says that pledges put forward by individual countries to cut emissions would lead to a rise in temperatures of three degrees centigrade above pre-industrial levels, far above the two-degree limit set by the Paris accord. The political effort of reaching such an agreement may delude people into believing the problem of climate change is solved.

If it has not been solved, then it seems evident that countries may need to redouble their efforts to take politically unpalatable steps to curb carbon emissions further. It would be hard to find an ethicist who would argue that companies do not have a moral responsibility to play their part in preventing a dangerous rise in global temperatures, despite the fact that it may undermine their business model. "Companies certainly have obligations to limit their impact on climate change, even if that may cut their profits or even have a serious impact on their ability to do business," says Brian Berkey, a professor of legal studies and business ethics at Wharton. "Take coal companies, for example. I would argue that, especially given current market conditions, the avenues available for coal companies to continue to make profits may not be ethically acceptable."

Berkey offers a hypothetical example of a company that understands its products have long-term toxic effects on children, but regulators have not discovered the problem. "We can either market the products anyway or shut down production. Surely, we are obligated to do the latter. The fact that we'll lose profits is just not morally important enough to justify imposing harm on unsuspecting consumers of our products," he says. "The harm that climate change will cause is similar to the harm in the case that I just described. And so, if a company's business model requires imposing those kinds of harms on consumers in order for the business to continue to be profitable, there is a strong case to be made to fold the company."

Some might say that this argument is too strict. Hiding the problem would certainly be unethical, but ending production altogether, even if others do not, might be too severe a consequence for many sorts of products. In some cases, the ending of production would be necessary, such as the sale of cars that are dangerous due to predictable and likely technical malfunctions. But, in other cases, such as the sale of candy or soft drinks that have serious, long-term health effects, continued production may not be as morally wrong as the manufacture of a car that is known to the makers to be unsafe, notes Henrik Syse, a research professor at the Peace Research Institute Oslo (PRIO).

An example of an intergenerational moral dilemma involving fossil fuels is the case of Arctic drilling for oil, in which the melting of the ice has opened up areas for possible exploration that were buried until only a few years ago. The consensus among scientists is that the consumption of oil has contributed significantly to carbon emissions which have led to global warming – and, *Rational self-interest has limited value in explaining how environmental issues should be framed.*

thus, to the melting of the polar ice caps. A paper written by Nicolas Cornell and Sarah Light, a Wharton professor of legal studies and business ethics, questions whether oil companies should be allowed to profit from previous actions that have caused harm to the environment.

This is an example of what they call the "wrongful benefit" principle, where it is morally wrong to profit knowingly from a bad act if the benefit is connected sufficiently closely to the bad act. In the paper, they point out that this principle applies in contexts other than Arctic oil drilling. One such is the 1889 case in New York of Riggs v. Palmer, much discussed by legal scholars. Elmer Palmer murdered his grandfather with poison because he was concerned the latter was about to change his will to his grandson's disadvantage. Two of Palmer's relatives brought an action in court, saying he should not be allowed to inherit because Elmer murdered his grandfather and the court agreed.

This analogy does not convince everybody. In the case of Palmer, the perpetrator and the beneficiary are one and the same. But Berkey is skeptical that corporations can be treated as the same agent over a period of decades. He points out that the U.S. legal system treats corporations as persisting over time and contracts are binding over the course of generations, but when it comes to moral responsibilities, it is difficult to assign blame to individuals at oil companies today for acts caused by other individuals at other companies many years earlier.

In the case of the Arctic, oil drilling is not illegal and murder is not an issue. But Light and Cornell argue that the oil industry would benefit from a wrong committed by the same industry, even though, at the time of extraction, decades earlier, there was no scientific connection between fossil fuels and climate change. The authors say that even if the oil drilling companies are not culpable, they caused harm in the past and would now profit from it. A similar phenomenon has been observed among gun manufacturers that profit from the occurrence of mass shootings and terrorist attacks, sometimes even incorporating them in their advertising campaigns.

In the case of a murderer profiting from the crime, there are such things as tainted goods, by virtue of the manner in which they were acquired. An example of this is "conflict" diamonds, extracted in an area of conflict, often in Africa, and sold to finance the fighting. Would newly drilled Arctic oil be tainted, in this sense? The authors say there is clearly a case to be considered, and if it applies to the oil industry, it could be extended to other industries besides.

This discussion of wrongful benefit shows that ethics is not only relevant to the broad issues of climate change and the future of planet earth, but to particular aspects of the debate over global warming. They show that rational self-interest has limited value in explaining how environmental issues should be framed. Corporate sustainability may make good, long-term economic sense, but the implications of global warming are so wide, deep and complex, that only a multidisciplinary approach has any chance of helping humankind deal with the problem.

The same can be said for the next and final section of this report, on automation and robotics. We have been aware of the problem of climate change for several decades; the technology of machine learning and artificial intelligence seems to have stolen up on us much more recently. Again, it raises ethical questions that require a multidisciplinary approach. Technology alone cannot solve the issues and, in fact, ethicists are directly involved in helping companies to solve some of the thorniest dilemmas around who or what is responsible if an autonomous vehicle or a robot were to run amok. ■

Automation and Robotics

From the moral dilemmas of climate change, we turn to the difficult choices to be made concerning technological advances in the field of robotics and automation. Science fiction writers as far back as H. G. Wells have been warning about the battle between man and machines, and the term 'robot' was coined, in Czech, in 1920. But the technological development of computers, and their application in everything from heart monitors to refrigerators, has accelerated in the past decade or so. Climate change ultimately revolves around moral questions of life and death. The same can be said about automation and robotics.

On May 7, 2016, Joshua Brown, a 40-year-old businessman from Ohio was driving his Tesla Model S on a highway in central Florida. The car struck the side of a large truck that had turned across its path and Brown was killed. The Tesla was on "Autopilot" at the time, and neither the car's computer nor the driver applied the brakes. The U.S. National Highway Traffic Safety Administration investigated the crash and declared that "a safety-related defect trend had not been found." The case was then closed.

Official investigators determined that the first fatality of its kind using autopilot technology was not caused by the Tesla car. But Brown's death has ramped up the debate about the safety of autonomous vehicles, a discussion that is partly technological, partly ethical. The Tesla in this case was a semi-autonomous vehicle, but it is only a matter of time before fully autonomous cars are found on roads in large numbers. How long it takes may depend, to some extent, on resolving ethical dilemmas inherent in a technology that can not only save lives, but also take them.

Few dispute the fact that autonomous vehicles will save thousands of lives by removing human error from the process of driving. Autonomous vehicles don't drive drunk. According to the World Health Organization, some 1.25 million people die each year as a result of road traffic crashes. Without sustained action, it says, road traffic crashes are predicted to become the seventh leading cause of death by 2030. The introduction of autonomous vehicles is the sort of sustained action that is likely to put a dent in this trend. In fact, a number of companies, including Ford, GM, Tesla, Google, Uber and Lyft, are aiming to have some form of autonomous car for commercial use within five years.

From an ethical point of view, it might seem a straightforward issue of designing the safest possible autonomous vehicle. If, through exhaustive testing, it is found to be many times safer than a conventional car, the utilitarian argument of saving the greatest number of people offers the greatest good. But there are many possible situations which are problematic. Consider the scenario in which a self-driving car with two occupants suddenly comes upon a mother and her baby crossing the road. In this situation, should the car be programmed to swerve away from the two, possibly causing the injury or death of the occupants if the car crashes into a wall?

This conundrum is an example of a famous thought experiment called "the trolley problem" that dates back to a 1905 questionnaire for ethics undergraduates at the University of Wisconsin. The questions were developed into a series of hypothetical scenarios by British philosopher Philippa Foot in 1967. In one of them, the driver of a trolley rounds a bend and sees five workmen repairing the track. The driver tries the brake, but it doesn't work. Suddenly a spur of track leads off to the right, but there is a workman on that track. He is no more able to get off the track in time than the five workmen, so he will die just as surely as the five. The driver can throw a switch and swerve, killing one man, or do nothing and kill five.

There are a number of choices for the ethicist. The utilitarian would throw the switch, because five people would be saved for one death. The virtue ethicist would take the same action, because saving five lives is the sort of compassionate act a virtuous person performs. The deontologist, however, arguably would not throw the switch, because the act of doing so would be a form of killing, and killing is inherently wrong. Admittedly, the choice among these three viewpoints has been portrayed starkly and, in reality, they rarely exist in their pure form and often overlap.

In any case, these are just a few of the possible moral choices. They may seem purely hypothetical (and the

Climate change ultimately revolves around moral questions of life and death. The same can be said about automation and robotics.

trolley problem has indeed been criticized for being overly hypothetical), but for the computer programmer of an autonomous vehicle, the choices are real. Defining the algorithms to help autonomous vehicles make these moral decisions is a big challenge. And there is an added problem when it comes to self-driving cars. A series of opinion surveys conducted by researchers who published their findings in Science in June 2016 found that people consistently took a utilitarian approach to the ethics of such vehicles. In answer to one question, 76% of respondents believe it is more ethical for an autonomous vehicle to sacrifice one passenger rather than 10 pedestrians. But there was a considerably lower level of agreement about the idea of buying or riding in such a car; the rating dropped by a third when respondents considered doing so. The results seem sufficiently discouraging for one car maker, Mercedes-Benz, to declare that it would prioritize occupant safety over pedestrians, according to an October 2016 article in *Car and Driver*.

Such calculations raise a broader, ethical question that affects not just self-driving vehicles but other forms of intelligent machines as well, such as robots and advanced types of unmanned aerial vehicles. What decisions should a machine make and what should it not be allowed to make? And who is responsible for drawing the line between the two?

One person who is categorical about the answer is Wendell Wallach, a scholar at Yale University's Interdisciplinary Center for Bioethics and co-author of *Moral Machines: Teaching Robots Right from Wrong*. "Whoever deploys the technology is responsible. And if they can't be responsible, then they shouldn't be deploying the technology," he says. "Initially it's got to be corporations, but not them alone. That would be like having the fox oversee the henhouse. You also need some oversight of corporations, some good-faith brokers who could at least report whether the corporations were acting in good faith." He notes that many of the automobile companies recognize that the courts will hold them responsible, regardless of whether they try to shift some responsibility to the human in the driver's seat.

What decisions should a machine make and what should it not be allowed to make? And who is responsible for drawing a line between the two?

Wallach would like corporations to be responsible for the self-driving cars they manufacture and that, if a fatality occurs and they are sued, the impact is felt on the bottom line, leading to an improvement in the quality of the products they make. He worries that the push to endow machines with moral agency will come too quickly in order to remove responsibility from the manufacturers. "My concern is that there will be a concerted effort to demean human moral agency, aggrandize the capacity of the machines, and petition for machine agency even though it may not be fully warranted," he says. "The issue is what thresholds the machines will have to cross in order to be designated as responsible agents. How does that even work? When you think of humans as responsible agents, we at least have ways of punishing them if they act irresponsibly. Does that make any sense when you're talking about an artificial intelligence, particularly one that's not in a body or something like a body?"

Kartik Hosanagar, a professor of technology and digital business at Wharton, tends to see the problem from the opposite end of the telescope. "We shouldn't only ask what can go wrong with artificial intelligence. We have to, in parallel, ask what can go wrong if we do not roll out AI," he says. Driverless cars are not the only example of lives potentially saved, but also the hundreds of thousands of deaths in hospital a year due to avoidable human error, which could be avoided with AI decision-support tools and alerting systems.

Hosanagar argues that we cannot hold AI to a higher standard than the humans it is replacing or complementing, with two exceptions. The first is that AI-based decision-making can touch more lives than human errors. "If a human driver, poorly trained, makes a mistake, then a few lives are affected, which is bad. But if an AI-based system makes mistakes and that system has been rolled out in hundreds of thousands of cars, that's a big problem." The second is transparency; there must be no 'black box.' The algorithms that went into the design of an AI-based machine should be clearly auditable. By contrast, we do not expect, say, a surgeon to have to justify every minute detail of an operation when she is making life-critical decisions. But for a robot, there will be a data trail embedded in the algorithm, and so it should be a relatively straightforward matter to find

The advantage of autonomous weapons systems is that they are not subjected to the psychological pressures exerted on human soldiers that would cause them to act outside the chain of command.

the source of an error, who or what is responsible, and to correct it.

In developing robots and other forms of AI, the computer science community focuses on outcomes, says Hosanagar; it is taking a consequentialist approach to the problem. Understandably, engineers are trying to ensure intelligent machines are designed to minimize the risk of harm to humans and the environment. But "they need to think about outcomes more broadly. The outcomes might not just be a single technical goal, but could include other things like fairness or the fact that not all wrongs are the same," he says. "One system might be wrong 10 out of 100 times and another might be wrong once in 10,000 times. But the one time the latter is wrong, it could be catastrophic."

This is only one of many potentially bad outcomes arising from an error committed by an intelligent machine. Of course, human beings can also "malfunction" and make mistakes, but it is a very different problem than the one that might occur if we, in effect, trusted machines to make truly complex decisions without assessing the many ways in which a machine could be hacked, or face technical problems, or even stop working completely. Some aspects of this problem are analyzed by Michal Klincewicz in "Autonomous Weapons Systems, the Frame Problem and Computer Security," published by the Journal of *Military Ethics* in 2015.

The advantage of autonomous weapons systems (AWS) is that they are not subjected to the psychological pressures exerted on human soldiers that would cause them to act outside the chain of command. But the problem Klincewicz pinpoints is that the software running AWS would have to be extraordinarily complex to solve the sort of issues they would encounter on the battlefield. "An intelligent robot not only needs to be able to limit its search to possibilities that are relevant to its goals, but also it has to first represent features of the world in a way that would make it possible to engage in such searches in the first place," he notes. An example is an urban environment that may include civilians and disguised militants. An AWS would not only have to distinguish the enemy from a noncombatant, but it would also have to work out the ethical ramifications of engagement.

The more complex the software, the greater its vulnerability to hacking, Klincewicz says, possibly enabling the enemy to turn the robot soldiers against their own side. Civilian autonomous vehicles do not have to operate in a war zone, but they also have to solve similarly complex problems and would therefore require highly sophisticated software that may be prone to hacking. It is not hard to imagine the dangers of an autonomous vehicle's software code ending up in the wrong hands.

Nobody would deny that it is difficult to program an intelligent machine to operate safely and efficiently, let alone one where the risk of hacking is manageable. But to teach robots right from wrong is a difficulty of a different order of magnitude. Yet there are scientists who are trying to do that. You could say they are taking a deontological approach to the problem. Organizations dedicated to robotic ethics include The Future of Life Institute, The Responsible Robotics Group and The Global Initiative on Ethical Autonomous Systems.

One of these, called GoodAI, does not aim to preprogram AI to follow a prescribed set of rules for every possible situation, but to teach them to use their knowledge to deal with completely new situations. The Entertainment Intelligence Lab takes a different approach, reading thousands of books and stories to AIs and enabling them to draft rules for behavior based on what they find. This would be the equivalent, perhaps, of a course in virtue ethics.

Hosanagar can see the value of such an approach. "With children we first try and teach them the higher-order principles. And then we get to specifics, whether it is math, calculus, or whatever," he says. "But with a lot of these AI-based systems, we are going directly to teaching them the equivalent of calculus or driving without teaching them the higher-order principles. Before a human being actually sits in front of a steering wheel, the person has learned a lot of these higher-order concepts about valuing life, getting a sense for what's right, what is wrong and how two wrongs can be different."

Although teaching a robot to tell right from wrong may seem a well-nigh impossible task, it is likely to pay dividends in the long run. Some scientists and philosophers are already focused on the possibility of the creation of machines with intellectual capabilities that outstrip humans. One philosopher who has considered the possibility is Nick Bostrom, director of the Future of Humanity Institute at the University of Oxford. In 2003, he wrote: "Such superintelligence would not be just another technological development; it would be the most important invention ever made, and would lead to explosive progress in all scientific and technological fields, as the superintelligence would conduct research with superhuman efficiency. To the extent that ethics is a cognitive pursuit, a superintelligence could also easily surpass humans in the quality of its moral thinking. However, it would be up to the designers of the superintelligence to specify its original motivations. Since the superintelligence may become unstoppably powerful because of its intellectual superiority and the technologies it could develop, it is crucial that it be provided with human-friendly motivations."

It would seem that ethicists have a bright future ahead of them, teaching super intelligent robots the difference between right and wrong.

This concludes the fifth and final section of the special report on business and moral philosophy. The aim has been to shed light on some of the ethical dilemmas that face business people every day, many of small import, others huge. What are the lessons that they should come away with?

First, moral philosophy is not a concept to be examined only within the groves of academe. The actions taken, and not taken, by companies have profound moral effects on themselves and society. Indeed, great thinkers such as Adam Smith saw moral philosophy as interwoven with what became the discipline of economics. Surely, it behooves companies to do more than pay lip service to the need to be good corporate citizens. If the latter is simply "good for business," are companies really tackling the difficult moral choices of investing in one place or halfway around the world, or between consumption now and investment for the future?

Second, moral philosophy offers not just a conscience for business people; it also provides them with a way to think through moral problems in a rational manner. Ethical theory is intellectually challenging. But, then, so is accountancy. For every moral generalization, there is an exception. By examining a difficult commercial problem from several different moral perspectives, a business person is likely to make a better decision.

Third, moral philosophy raises profound questions about accountability that require urgent examination. These days, the buck doesn't seem to stop anywhere. Only laws appear to stand in the way of questionable business behavior. But then if companies only obeyed the law, as this special report has tried to show, global capitalism would probably be more inequitable, more dangerous and even less sustainable than it is today. What prevents worse economic events are the consciences of millions of business people, who may not be aware of it, but who are acting according to moral concepts thought up possibly thousands of years ago. If this is true, then we can do better, by designing more ethical corporate structures for the future. These structures would reward business people for taking a long-term view, for thinking about the moral effects of their behavior on their fellow human beings and for acting in an ethical manner. ■