

Organizational Artificial Intelligence Behavior

Julia M. Puauschunder*

*The New School, Department of Economics, Schwartz Center for Economic Policy Analysis,
6 East 16th Street, 9th floor 89, New York, New York 10003, USA,
Julia.Puauschunder@newschool.edu, <http://juliampuauschunder.com/>*

*Columbia University, Graduate School of Arts and Sciences, 116th Street Broadway, New York,
New York 10027, USA, Julia.Puauschunder@columbia.edu,
<http://blogs.cuit.columbia.edu/jmp2265/>*

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ABSTRACT: Artificial Intelligence (AI) poses historically unique challenges for organizational settings. In a world, where there is a currently ongoing entrance of AI and algorithms into the workforce, the emerging autonomy and superiority of AI holds unique potentials but also economic and ethical challenges in the organizational context. With AI being endowed with quasi-human rights and citizenship in the Western and Arabic worlds, the question arises how to handle overpopulation but also misbehavior of AI? Should AI become eternal or is there a virtue in switching off AI at a certain point? If so, we may have to redefine laws around killing, define a virtue of killing and draw on philosophy to answer the question how to handle the abyss of killing AI with ethical grace, rational efficiency and fair style. Further, market disruptions in the wake of AI may already have begun, pressing for a demand to monitor and alleviate potential downfalls of AI. Lastly, with eternal AI overpopulation problems and resource consumption demand for attention of the impact of AI on sustainable development. The presented theoretical results will set the ground for a controlled AI-evolution in the 21st century and guide on the entrance of AI into our contemporary workforce in the organizational world.

Key words: Artificial Intelligence, AI, AI-evolution, algorithms, cognitive robotics, emerging technologies, ethical issues, ethics, human robot interaction, international law, killing, legal personhood, organizational behavior, roboethics, virtue of killing

1. Introduction

Artificial Intelligence (AI) poses historically unique challenges for our contemporary workforce. As emerging globally trend, AI is extending its presence at almost all levels of social conduct and thereby raised both – high expectations but also grave concerns (Cellan- Jones, 2018; Sofge, 2015; United Nations, 2017). With the dramatic growth in diversity and entrance of emerging technologies in today's societies, such as algorithms, social robots, lifelike computer graphics (avatars), and virtual reality tools and haptic systems, the social complexity of these challenges are on the rise (Meghdari & Alemi, 2018). One of the main challenges in developing and applying modern technologies in our societies is the identification and consideration of ethical issues surrounding AI (Meghdari & Alemi, 2018). The call for AI Ethics (AIE) has emerged (Puaschunder, 2017a, b, 2018b, 2019). A growing number of AI and robotics researchers have demanded to create a framework on AI ethics building on the benefits of humanities, philosophy, natural sciences, sociology, and social neuroscience.

AI will hold the potential to replicate human existence but also grant eternal being opportunities. In the eye of overpopulation concerns, finding mechanisms to switch off AI would be a solution to avoid a crowding of the planet. But AI currently also reaches quasi-human status through actual personhood – e.g., via citizenship and quasi-human rights applied in the Common Law but also Roman Law territories of the US and the EU. Leveraging AI entities to the status of being through the attribution of legal personhood raises challenging legal and ethical questions. Programming AI to switch itself off or switch off AI at a certain point to curb overpopulation but also as quality control against harmful behavior arising out of AI, thereby appears critical as it would come close to suicide or killing. The currently ongoing market disruption through AI encroaching our workforce raises important organizational behavior concerns. A novel predicament between eternity and overpopulation also calls for thinking about the impact of robots and algorithms on our common sustainability approach.

When considering humans' opportunity to determine life and death of AI, humankind will see the opportunity of AI-evolution understood as a human-made evolution determining what contents survive and what to die following the goal to improve the overall offspring and general well-being of humankind. Future managers and corporate leaders will have to determine how to blend in the use of algorithms, robots and AI on a large scale. Thereby natural behavioral laws of ethics may serve as a first anchor to determine respectful yet useful conduct around AI. Lastly, the artificial age imposes challenges on our resource consumption and overpopulation

endeavors with regards to the sustainable development goals. The proposed frame will offer innovative insights for corporate conduct regarding artificiality. This paper provides a first guide for organizational behavior specialists to welcome the introduction of AI into our contemporary workforce. In this paper, the novel and multidisciplinary area of socio- cognitive robotics, and the ethical challenges of emerging technologies are explored. Key ethical features based on past and present research in a variety of AI areas will be presented.

The paper is structured as follows: First, the ontology of AI is given as well as an analysis of legal personhood. Then, first results on a contemporary market disruption through AI are brought forward for the very first time. The paper then describes the predicament between eternal life and overpopulation. The virtues of dying and killing but also philosophical arguments for the right to live or choose suicide are discussed. The paper closes with an international law and future research prospects on regulating AI and overall future outlook.

2. Theory

2.1 Artificial Intelligence

Artificial Intelligence (AI) is “a broad set of methods, algorithms, and technologies that make software ‘smart’ in a way that may seem human-like to an outside observer” (Noyes, 2016). The “human-like” intelligence of machines derives from machines being created to think like humans but at the same time to also act rationally (Laton, 2016; Russell & Norvig 1995; Themistoklis, 2018). AI is perceived as innovative technology or as the sum of different technological advances as the privilege of the private, technological sector with little — if any — public regulation (Dowell, 2018).

As the most novel trend, AI, robots and algorithms are believed to soon disrupt the economy and employment patterns. With the advancement of technologies, employment patterns will shift to a polarization between AI’s rationality and humanness. Robots and social machines have already replaced people in a variety of jobs – e.g. airports smart flight check-in kiosks or self-check-outs instead of traditional cashiers. Almost all traditional professional are prospected to be infused with or influenced by AI, algorithms and robotics.

In order to consolidate the observation that there is continuous globalization trend and growth in the AI domain, Puaschunder (2019) staged a correlation study. As a proxy for AI entering economic markets, internet connectivity, as measured by the *Global Connectivity*

*Index*¹ was related to GDP pillars of agriculture, industry and service sectors as derived from the World Bank dataset on GDP of the year 2017 and a cross-validation check be performed with the *State of the Mobile Internet Connectivity 2018 Index*.² This measure aided in understanding what GDP sectors AI is attributed to. A trend of globalization still continuing in AI-featuring industries and countries was highlighted by relating AI-integration with globalization hallmarks of capital and labor movements (Puaschunder, 2019).

The *State of the Mobile Internet Connectivity 2018 Index*³ served as a proxy for AI-entrance in markets and was found to be highly significantly positively correlated with the service sector percentage of the entire GDP composition and highly significantly negatively correlated with the agriculture GDP sector percentage of the entire GDP composition. The *State of the Mobile Internet Connectivity 2018 Index*⁴ was found to be highly significantly positively correlated with the total inflow of migrants and Foreign Direct Investment (FDI) inflow. As a cross-validation check, the *State of the Mobile Internet Connectivity 2018 Index*⁵ is highly significantly positively correlated with Internet connectivity as measured by the *Global Connectivity Index*.⁶

Robots have already begun to serve in the medical and health care profession, law and – of course – IT, transportation, retail, logistics and finance, to name a few. Social robotics may also serve as quasi-servants that overwhelmingly impact our relationships and workforce. Already, social robots are beginning to take care of our elderly and children, and some studies are currently underway on the effects of such care (Alemi, Meghdari & Saffari, 2017). Not only will AI and robots offer luxuries of affordability and democratization of access to services as they will be – on the long run – commercially more affordable and readily available to serve all humanity; but also does the longevity potential of machines outperform any human ever having lived (Hayes, 2018). However, the new technology also comes with the price of overpopulation problems and the potential for misuse and violent action. Just like many other technologies, robots could be misused for wars, terrorism, violence and oppression (Alemi et al., 2017).

¹ <http://www.huawei.com/minisite/gci/en/country-rankings.html>

² <https://www.gsma.com/mobilefordevelopment/resources/state-of-mobile-internet-connectivity-2018/>

³ <https://www.gsma.com/mobilefordevelopment/resources/state-of-mobile-internet-connectivity-2018/>

⁴ <https://www.gsma.com/mobilefordevelopment/resources/state-of-mobile-internet-connectivity-2018/>

⁵ <https://www.gsma.com/mobilefordevelopment/resources/state-of-mobile-internet-connectivity-2018/>

⁶ <http://www.huawei.com/minisite/gci/en/country-rankings.html>

AI's entrance in society will revolutionize the interaction between humans and AI with amply legal, moral and social implications in the organizational context (Kowert, 2017; Larson, 2010). Autonomous AI entities are currently on the way to become as legal quasi-human beings, hence self-rule autonomous entities (Themistoklis, 2018). AI is in principle distinguished between weak AI, where "the computer is merely an instrument for investigating cognitive processes" and strong AI, where "[t]he processes in the computer are intellectual, self-learning processes" (Wisskirchen, Biacabe, Bormann, Muntz, Niehaus, Jiménez Soler & von Brauchitsch, 2017, 10). Weak AI is labeled as Artificial Narrow Intelligence (ANI) while strong AI is further distinguished between Artificial General Intelligence (AGI) and Artificial Super Intelligence (ASI).

The emergence of robotics technology is developing much quicker than previously thought. Robots are anticipated to soon be as ubiquitous as computers are today (Meghdari & Alemi, 2018). Society has long been concerned with the impact of robotics technology from nearly a century ago, when the word "*Robot*" was devised for the first time (Căpek, 1921; Meghdari & Alemi, 2018). The EU Committee on Legal Affairs (2016, p. 4) holds that "[U]ltimately there is a possibility that within the space of a few decades AI could surpass human intellectual capacity in a manner which, if not prepared for, could pose a challenge to humanity's capacity to control its own creation and, consequently, perhaps also to its capacity to be in charge of its own destiny and to ensure the survival of the species." AI mimicking human intellect could soon surpass humans intellectually but also holistically breaking the barrier of human controlled-automization, which will become a difficulty in the organizational behavior context (Schuller, 2017; Themistoklis, 2018). A predicament will soon exist between treating robots in a humane way to uphold social norms within the organizational context as well as reaping benefits from robots as quasi-slaves as was proposed (Puaschunder, 2018, 2019). While these machines' value should be extracted, it can be seen critical to anthropomorphizing AI as for ethical concerns to uphold dignity and social norms within the organizational context. The European Union has therefore recently published a guideline called BS 8611:2016 Robots and robotic devices: Guide to the ethical design and application of robots and robotic systems as a guide to protect and anchor of behavioral conduct in the organizational setting. An additional study of the European Parliament will study the impact of algorithms in the health care sector with particular attention to privacy concerns and transparency in the big data age.

Modern literature about robots features cautionary accounts about insufficient programming, evolving behavior, errors, and other issues that make robots unpredictable and potentially risky or dangerous (Asimov, 1942/1950, 1978, 1985; Meghdari & Alemi, 2018). “Observe, orient, decide, act” will therefore become essential in the eye of machine learning autonomy and AI forming a new domain of intellectual entities (Armstrong & Sotala 2012, 52; Copeland 2000; Galeon & Reedy, 2017; Marra & McNeil, 2013). The uncertainty surrounding AI development and self-learning capabilities give rise to the need for guarding AI and an extension of the current legal system and organizational guidelines to cope with AI (Themistoklis, 2018).

2.2 AI-Evolution

The human perception of and interaction with robot machines with a higher quality physical appearance differs from interaction with a computer, cell phone, or other smart devices (Meghdari & Alemi, 2018). In the organizational context, already now google glasses and lenses are used in order to collect information from workers. For robotics technology to be successful in a human-driven environment, robots do not only need to meet a level of strength, robustness, physical skills, and improved cognitive ability based on intelligence but should also fulfill a social impetus and ethical conscientiousness. The design and construction of social robots faces many challenges, one of the most important is to build robots that can comply with the needs and expectations of the human mind with cognitive capabilities coupled with social warmth (Meghdari & Alemi, 2018). While we have *Social-Cognitive Robotics* (SCR) as a transdisciplinary area of research and a basis for the human-centered design of technology-oriented systems to improve human knowledge functions, judgements and decision making, collaborations, and learning; hardly any information exists on socio-evolutionary comparisons (Meghdari & Alemi, 2018). Social-cognitive robotics has been evolving and verified through a series of projects to develop advanced and modern technology-based systems to support learnings and knowledge functions, and is beginning to play an effective role in societies across the globe (Meghdari & Alemi, 2018). SCR or *Socio-Cognitive Robotics* is the interdisciplinary study and application of robots that are able to teach, learn and reason about how to behave in a complex world (Meghdari & Alemi, 2018). Social robotics technology promises a many benefits but also challenges that society must be ready to confront with legal means and ethical imperatives.

2.3 Roboethics

Ethics describes moral principles that govern a person's or group's behavior. Roboethics describes the ethics and morals of robotics, the science of robots. Roboethics therefore captures the integration of ethics into AI and algorithms. This field recently gained considerable attention among humanities and robotics engineers who draw on insights from computer science, artificial intelligence, mechanics, physics, math, electronics, cybernetics, automation and control (Meghdari & Alemi, 2018).

What specifies the emergence of socio-cognitive robotics is that humanity is at the threshold of replicating an intelligent and autonomous agent (Meghdari & Alemi, 2018). In order to enhance the ability of social robots to successfully operate in humane ways, roles and environments, they are currently upgraded to a new level of physical skills and cognitive capabilities that embrace core social concepts (Meghdari et al., 2018). Robotics thereby unifies two cultures, in which complex concepts – like learning, perception, decision-making, freedom, judgement, emotions, etc. – may not have the same semantic meaning for humans and machines (Meghdari & Alemi, 2018). In the organizational context, there is a divide projected into AI and non-AI humanness. Value may be derived from particular human traits, when many other manual and repetitive tasks will be outsourced to robots. Already now we see that algorithms in finance are less likely preferred over human advisors, even if they are outperforming. In the organizational context we already see now a trend of reshoring formerly outsourced repetitive tasks to low-income countries back to the developed world with AI hubs. AI and automated control will generate economic superiority in the future, as humans having AI work for them can start using their additional time for creative human tasks. Leadership and organizational behavioral knowledge, which are features hard to replicate by AI, are expected to grow in the artificial age.

In the design and construction of social robots, the consideration of ethical concerns has therefore leveraged into an imperative (Lin, Abney & Bekey, 2012). Human-robot (a machine with a higher physical and social ability) interactions, are somewhat different compared to other types of human-machine interactions (i.e. with a computer, cell phone, or other smart device) (Meghdari & Alemi, 2018; Saffari, Meghdari, Vazirnezhad & Alemi, 2015). It is therefore essential for researchers, scholars, and users to clearly identify, understand, and consider these differences and ethical challenges so that they can benefit from and no one gets harmed by the

assistance of social robots as a powerful tool in providing modern and quality services to society (Meghdari & Alemi, 2018; Taheri, Meghdari, Alemi & Pouretamad, 2018).

Robots and algorithms now taking over human decision-making tasks and entering the workforce but also encroaching our private lives, currently challenges legal systems around the globe (Themistoklis, 2018). The attribution of human legal codes to AI is one of the most groundbreaking contemporary legal and judicial innovations. Until now, legal personhood has only been attached directly or indirectly to human entities (Dowell, 2018). The detachment of legal personhood from human being now remains somewhat of a paradox causing an extent of “fuzziness” of the concept of personhood (Barrat 2013; Solum 1992, p. 1285). As AI gets bestowed with quasi-human rights, defining factors of human personhood will need to be adjusted (Dowell, 2018). Human concepts, such as morality, ownership, profitability and viability will have different meaning for AI. The need for redefining AIE has therefore reached unprecedented momentum.

2.4 Eternal life

While there is currently cutting-edge writing about the potential emergence of an AI personhood as well as concern over the merge of AI with cyberspace that might lead to the breach of the relationship between legal personhood and nation state sovereignty and a nomenclature is emerging on legal characterizations of different levels of AI development; hardly any information exists about the eternal living of AI (Hildebrandt, 2013). From the theoretical standpoint, the eternal longevity of AI contradicts the fundamental concept of fairness in death, as a general condition for all. From the practical standpoint, the international community is currently urged to think on the basis of global commons in terms of AI and AI eternal life potentials contributing to overpopulation. Thereby global commons theories may be tabbed on, which primarily offer guidance for a regulatory framework, which establishes control “...for the benefit of all nations” and refer to space constraints (Clancy, 1998; Tsagourias, 2015).

Regarding limited space, longevity and eternal life appears problematic. Humankind may face tough decisions whether or not to have AI proceed and what kind of developments to flourish and what to extinct. In what cases should we consider to switch off AI? In 1950, Isaac Asimov introduced the idea robot to (1) not injure a human being or, through inaction, allow a human being to come to harm. (2) A robot obeying the orders given it by human beings except where such orders conflict with the first law. (3) A robot must protect its own existence as long as such protection does not conflict with the first or second law. So in the cases of

overpopulation and harm emerging from AI, algorithms and robots can be considered to be switched off. But when to stop AI?

Another killing market mechanism may be natural market selection via price mechanisms and the falling rate of profit. Regarding prices, natural supply and demand mechanisms will always favor innovation with a higher price and following supply of goods lead to a price drop. The falling rate of profit is one of the major underlying features of business cycles, long-term booms and downturns (Brenner, 2003, 2006a, b). Capitalism is thereby described as competitive battle for innovation and reaping benefit from first-market introductions. Once followers enter the market, profit declines, leading eventually to market actors seeking novel ways to innovate in order to regain a competitive market advantage and higher rates of profit. Thereby industries and innovations fade and die off. Such a natural market evolution is also likely to occur with AI innovations, which will determine which AI traits will remain and which ones will fade off.

Apart from soft market mechanisms that may lead to AI evolution, what are the cases when AI should be shut down or switched off or – in the case if AI personhood – be killed?

The main and leading concern about any new and emerging technology is to be safe and error free (Meghdari & Alemi, 2018). Therefore, sufficient and numerous tests on health and safety must be performed by developers and/or well-known independent sources before rolling out any technology onto the marketplace and society (Meghdari & Alemi, 2018). In robotics, the safety issue mainly centers around software and/or hardware designs (Meghdari & Alemi, 2018). Even a tiny software flaw or a manufacturing defect in an intelligent machine, like a smart car or a social robot, could lead to fatal results (Meghdari & Alemi, 2018). When these deviations occur and especially when they are harmful to the human community but also to other AI species, the faulty AI should be terminated. With regard to the risk of robotic malfunctions and errors, product legal responsibility laws are mostly untested in robotics (Meghdari & Alemi, 2018). A usual way to minimize the risk of damage from social robots is to program them to obey predefined regulations or follow a code-of-ethics (Meghdari & Alemi, 2018). Ethical codes for robotics are currently needed and should become formed as a natural behavioral law to then be defined and codified as law. Laws but also an ethical understanding to terminate AI, algorithms and robots in case of impairment and harm are needed.

As social robots become more intelligent and autonomous and exhibit enough of the features that typically define an individual person, it may be conceivable to assign them responsibility and use them in social, educational, and therapeutic settings (Meghdari & Alemi, 2018). In the currently ongoing research on the integration of computers and robotics with

biological corpse it is found that a cognizant human brain (and its physical body) apparently has *human-rights*; hence, replacing parts of the brain with artificial ones, while not harming its function, preserves those rights (Meghdari & Alemi, 2018; Warwick & Shah, 2014). Also, consider a handicapped person featuring an electronic robot arm that commits a crime. It becomes obvious that half-robot-human beings should be considered as human and robots as quasi-human beings. Meghdari & Alemi (2018) speculate that at some point in the future, we may face a situation in which more than half of the brain or body is artificial, making the organism more robotic than human, which consolidates the need of special *robot-rights* and attributing (quasi)-human rights onto robots. When considering robots as quasi-human beings, their termination appears legally questionable and ethically challenging, requiring to revisit laws as legitimation to kill a likewise species as well as ethical consensus on the virtue of killing.

3. Discussion

In its entirety, this article was the first introduction of AI ethics opening up many challenging questions in the behavioral context. For instance, what ethical code should we apply for controlling robots' actions? How can we program a switch to turn off AI in case of unlawful action and harm to people but also how to draw the boundary condition to ethical infringements? This is specifically important if humankind starts placing social robots in positions of authority, such as police, security guards, teachers, or any other government roles or offices, in which humans would be expected to follow them.

In the future, it is predicted that society is expected to fall into two extremes of a dichotomy between rationality (represented by AI) and humanness (represented by human beings). Hereby the question arises what is it that makes human humane? In the age of artificial intelligence and automated control, humanness is key to future success. Behavioral human decision making insights and evolutionary economics can already today predict what makes human humane and how human decision making is unique to set us apart from artificial intelligence rationality. Future research in these domains promise to hold novel insights for future success factors for human resource management but also invaluable contributions for artificial intelligence ethics (Puaschunder, 2018b).

Overall this paper was meant as first step towards a nomenclature of deciding on the future evolution grounded in the virtue of living and killing to motivate different viewpoints on the issue by cultural, religious, and ethical scholars. The article plays an important role in the evolution of an AI and human mixed society in order to ground stability and social harmony

into the newly emerging system. Depicting ethical imperatives around the life and death of machines being considered as quasi-human beings during this unprecedented time of societal change and regulatory reform holds invaluable historic opportunities for global governance policy makers to snapshot the potential but also save from the likely downfalls of a robo-human mixed society.

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