

LEGAL AND MORAL CONSIDERATIONS OF ARTIFICIAL INTELLIGENCE AND ITS EFFECTS ON THE CREATION OF NORMS

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1. Introduction

In our study, we will endeavour to present a comprehensive overview of a number of areas where the application of artificial intelligence and robotics may carry an ethical significance. The authors will attempt to illustrate that the rise of human-to-machine and machine-to-machine technologies will necessitate an entirely new approach to creating social norms, a fact that far overshadows the technological details and nuances of AI normally found in academic literature. The central question of this norm creation will be whether the regulation of machines is to be dominated by a technical process of rules, standards, protocols and ontologies or, on the contrary, a democratic regulation relying on the state and a citizens' drive for a fair and just distribution of goods. The current technologization of legal systems seems to herald the advent of the former, creating a less humane world. But the reverse is still possible. It solely depends on us.

1.1. *The Laws of Machines: Protocols, Standards, Algorithms*

In recent decades, the transformation of the world through the appearance of modern digital technology has become more evident than ever before. The Internet has completely revolutionized communication itself, which also has an effect on industrial production, a process that is sometimes referred

to as the Fourth Industrial Revolution, or Industry 4.0 for short.¹ As the world changed, legislators have always been faced with dilemmas they couldn't immediately provide answers for, because they require the knowledge of specialists and professionals. When it comes to Industry 4.0, jurists are often sidelined during the making of regulations, in favour of professionals crafting the algorithms, protocols, standards and other rulesets that aim to regulate machines. Since the system of ontologies describing the exact workings of artificial intelligence is immensely complex, it can only be supervised and operated with the help of machines.²

The significance inherent to this has not evaded the attention of the G7 either; in September 2017, they issued a document in Turin, titled „G7 ICT AND INDUSTRY MINISTERS' DECLARATION MAKING THE NEXT PRODUCTION REVOLUTION INCLUSIVE, OPEN AND SECURE”³, which declares that the topic must be handled in a supranational and political manner. According to Articles 40-44: „We believe that industry-led voluntary international technical standards, developed in an open, transparent and consensus-based manner and in market-led approaches, are critical for the progress toward the digitally connected world. These are a means to promote economic growth, innovation, productivity and competitiveness, and interoperability, trust and security in the use of ICT's. Standards should be developed in a manner consistent with the WTO Agreement on Technical Barriers to Trade (TBT) Code of Good Practice and the TBT Committee Decision on Principles for the Development of International Standards.

To sustain and extend global connectivity and economic interaction through digitalisation, international standards should be preferred over the use of national or regional standards. When international standards are transposed into, or adopted as, regional/national standards, such a transposition or adoption should be done according to the procedures of the developer of the international standard and the resulting regional/national standard should not conflict with the original international standard. [...]

1 WEYER, Stephen – SCHMITT, Mathias – OHMER, Moritz – GORECKY, Dominic: Towards Industry 4.0 - Standardization as the crucial challenge for highly modular, multi-vendor production systems. *Science Direct. IFAY-PaperOnLine* 48-3, 2015, 579-584.

2 BIRHER, Nándor: *Az egyéb normarendeknek a modern technológiai szabályozással összefüggésben történő alakítása, a jogalkotással párhuzamosan.* In: *Technológiai kihívások az egyes jogterületeken.* (ed.: HOMICSÓ, Árpád) Budapest, Patrocinium Kiadó, 2018.

3 https://teamdigitale.governo.it/upload/docs/2017/10/Declaration_and_Annexes_final_26_09_2017.pdf (2018. 12. 10.)

Standardisation is an effort driven by market needs that can advance social and economic objectives. Therefore standards-setting practices should be open to participation from all interested stakeholders. While industry-led standards bodies are best positioned to develop the technological standards and solutions to address global ICTs challenges and opportunities, Governments should foster an inclusive environment for standards development[...].

We recognise that the current advancements in new technologies, especially Artificial Intelligence (A.I.) could bring immense benefits to our economies and societies. We share the vision of human-centric A.I. which drives innovation and growth in the digital economy. [...]"

In the quoted segments of the document, the word 'standards' features with great prominence. We are faced with significant difficulties in that currently, the creation and application of standards is usually based on legal customs and economic interests, which can endanger supranational standardisation processes that endeavour to encompass the entire industry.

1.2. Industry 4.0 and Standards

Communication networks such as the Internet, as well as other means of human-to-machine communication are exerting an increasing influence on the industry. We are currently at the zenith of the Fourth Industrial Revolution: modern IT phenomena such as the Internet of Things (IoT)⁴, Cyber-Physical Systems (CPS) and the Internet of Services (IoS) are establishing a new business model while striving to create more flexible and innovative services and products in an industrial context.⁵

In this environment, standards and regulations should help us achieve the following:

1. to facilitate the arrival of accurate information to the appropriate destinations,
2. to protect and regulate the free flow of information,
3. to mitigate the risks of technological adaptation and advancement.⁶

4 The 'Internet of Things' is a network that connects traditionally offline tools and home appliances, as well as vehicles and other 'things' on the Internet, allowing them to exchange data and to interact. It is machine-to-machine communication requiring no active human participation.

5 https://www.researchgate.net/publication/318208930_The_Industry_40_Standards_Landscape_from_a_Semantic_Integration_Perspective (2018. 11. 14.)

6 https://ws680.nist.gov/publication/get_pdf.cfm?pub_id=918723 (2018. 11. 14.)

Currently, standards and other regulations that are both effective and consensually created are largely missing.⁷ Because of this, there is an ongoing debate about the ethics of publishing every advancement in the field of artificial intelligence, there being a dangerously high risk of their utilisation for less than peaceful ends.⁸

Worse yet, even the regulations that do exist are much more concerned with the maximalisation of efficiency, rather than the human element.

Much as we've established before, the Fourth Industrial Revolution's digital society increasingly sidelines the democratic nature of law, replacing it with technical utilitarianism. There are certain views suggesting that a complete, codified and consensual process of standardisation is not even possible.

Regulation (but not so much standardisation) did fulfill a very integral role in the technological advancement of the past, and even present, but this is bound to change in a digital society, completely pushing these factors to the background, because there is no widescale social interest behind standardisation. Neither jurists nor politicians would welcome new regulations, and market actors doing the actual development would be more hindered than benefitted by it.

It is very likely that technological advancement in a digital society will be so fast that developers would not be able to catch up with regulations⁹ – let alone standards – even if they wanted to work under their regime. It is also very likely that this rapid pace will not allow for the proper education of a sufficient number of professionals in all the related fields.

If all of this comes to pass and the speed of technological progress in the digital age will make worldwide technical regulation unfeasible, then an open source, global development scheme will fall apart into numerous separate groups of developers. Therefore, if any regulation is going to be viable at all, it will be of the ethical kind (but not an ethical code). For this to work, however, the equilibrium between law, morality and religious faith must be restored. Otherwise, nothing but anarchy awaits us.

7 https://www.researchgate.net/publication/327631726_Enabling_Technologies_for_Operator_40_A_Survey, (2018. 12. 10.)

8 <https://intelligence.org/> (2018. 12. 10.)

9 According to Sándor Udvary, this is unacceptable from the perspective of states and legislators. Take a look at the early development of the Internet and its regulations: at the beginning, it was largely unregulated, and many experts espoused the idea that the Internet, as such, cannot even be regulated or controlled. Lately, though, we can see an increasing amount of legislation in this field, including international regimes. See: UDVARY, Sándor: A gépi identitás látszatáról. *Glossa Iuridica*, 2018/3-4, 51-67.

1.3. Compliance: a Hybrid of Law, Standards and Ethics

In order to avoid the aforementioned anarchy, compliance management endeavours to increase the compatibility of various norm systems. Let us take a look at the benefits and drawbacks of this process. In order to ensure its continued existence, a company must adhere to the laws under which it operates. Considering the sheer volume of legal acts and regulations, this is no simple task. To this end, enter compliance management, the process of assessing, organising and handling all the different levels of duties arising from laws, standards and other regulations.¹⁰ Compliance management includes all relevant elements here: the discovery of all related legislation, the articulation of the effects these regulations have on the company, securing a smooth implementation of compliance, exercising self-assessment and scrutinising the results.¹¹ This constitutes a recurring task for companies, because the ever-shifting circumstances brought about by changes in legislation, contracts, customs and ethical codes must be kept up with.¹² When assessing compliance, it must first be determined whether the company is even able to meet the requirements in question. Afterwards, the company needs to estimate the effects that compliance is going to have on its environmental policies, organisation and company agenda. Like so many other things, compliance management, too, is subject to human error; therefore, the consequences of such potential errors must also be accounted for, particularly accidents resulting in a state of noncompliance. How is it possible to filter out such threats? Could a computer program offer a solution? According to computer scientist Heiko Thimm, a software might indeed provide more reliable results than human calculation. His suggestion is an application that constantly monitors compliance management data in order to detect the errors within. In the case of every error, it calculates the likelihood of resulting noncompliance and generates a risk profile by aggregating all the risk factors involved.¹³ In other words, it evaluates all errors and risks together, rather

10 <http://isoconsultantpune.com/iso-140012015-compliance-obligations-evaluation-compliance/> (2018. 11. 15.)

11 https://www.sccm.nl/sites/default/files/BM28SCCM_N170215_Infoblad_naleving_milieuwetgeving_ENG_20Feb17.pdf (2018. 11. 15.)

12 <http://www.european-accreditation.org/publication/ea-7-04-m-rev03-may-2017-2> (2018. 11. 15.)

13 THIMM, Heiko: Enhancement of Environmental Compliance Management by a Risk Profiling Information Service. *International Journal of Agricultural and Environmental*

than doing so individually. It would first search for errors, then estimate the possible consequences of these errors, followed by risk calculation and finally, the aggregation of data.¹⁴ The results are displayed in five categories. Considering the sheer number of legal requirements a company must adhere to, such softwares could greatly alleviate the compliance management process.

It is increasingly evident that Industry 4.0 is less and less governed by national legislation. However, the shortcomings of international regulation ensure that it is the internal procedural codes of multinational corporations, as well as protocols, ontologies and standards that progressively take the leading role here. These methods typically take the place of legislation inasmuch as there is a need for technical knowledge in judging a certain question, their use being mandatory more in a *de facto*, rather than a *de iure* manner, unlike in the case of regular legal acts. The sheer number of these unofficial regulators is not to be ignored, which, combined with the legislative acts to adhere to, constitute a substantial amount of obligations. All of this can only be effectively handled and managed by artificial intelligence, meaning we need to relegate yet another important task to machines. As such, due to the complexity of technological regulation, the day that machines will control the creation and application of these rules may not be that far away. Democratic nation-states are not nearly prepared for this situation yet.

1.4. *Who is Behind a Machine's Decision?*

May 29, 2014. An article¹⁵ titled 'Can a robot learn right from wrong?' was published, claiming that researchers in the US are intending to develop machines with the capacity to make moral choices. The topic was already very timely in 2014, and has only become more pressing ever since.

Modern technology inevitably races forward to a point where machines will be forced to make moral decisions.

In this article, Adrienne Jeffries proposed that in the immediate future, self-driving cars will be faced with situations not unlike the trolley problem.¹⁶

Information Systems, 2016, 7 (4), 9.

14 ZÓDI, ZSOLT: *Platformok, robotok és a jog*. Budapest, Gondolat Kiadó, 2018.

15 <https://www.theverge.com/2014/5/27/5754126/the-next-challenge-for-robots-morality> (2018. 11. 15.)

16 The trolley problem was created by British philosopher Philippa Foot. Its dilemma is the following: a trolley cart is set loose and is speeding towards five people tied to the railway ahead, inevitably set to kill them all. There is a lever we can pull that

Matthias Scheutz, computer scientist from Tufts University asserts that it would be almost impossible for the trolley problem to be mapped and modelled in a way that using all available data and every possible outcome, a computer program would be able to choose the 'appropriate' moral decision.

It is effectively this conundrum that constitutes the main purview of <http://moralmachine.mit.edu/>, a website that allows its visitors to take control of driving-related crises and decide whether or not the self-driving car should prefer the passengers' lives over those of pedestrians, or to prioritise between humans and dogs on the crossing.

Despite his aforementioned opinion, Matthias Scheutz has expressed his desire to develop machines that will, in fact, be capable of tackling such situations. To this end, he won a scholarship,¹⁷ and – together with his team – he is currently researching the processes going through the human mind when it makes a moral decision. According to the research team's plans, these processes would be modelled and transplanted into the software's algorithm. At the end of their five-year scholarship program, the researchers are hoping to present a robot capable of moral decision-making. In their view, one of the most crucial factors here is going to be the ability of such a machine to justify its moral decisions with coherent reasoning. If it can truly be accomplished, we may not be forced to share the future with morally neutral machines, after all.¹⁸

Years before Scheutz and his team began working, Ron Arkin, professor from the Georgia Institute of Technology, who had previously worked for the military, created an ethical code intended for robots. His 'ethical guidelines' can be likened to Asimov's Three Laws of Robotics,¹⁹ created with the intent to help keep future combat robots in check. Arkin and his team sought government funding in order to first study the moral development of small children, and then integrate their

diverts the trolley to a side track, where only one person lies tied down. The question is whether or not it is a morally sound decision to save five lives at the cost of one by direct participation, as opposed to inaction.

17 <https://now.tufts.edu/news-releases/teaching-robots-right-wrong> (2018. 11. 19.)

18 Udvary distinguishes between 'behaviour' (which is intrinsic to human beings) and 'action' (which machines are also capable of), where the latter is always to be taken into account with regards to natural or legal persons. See: UDVARY op. cit. 56-57; See also: KLEIN, Tamás: *Homonculum regulare necesse est. Jogtudományi Közlöny*, 2018/9, 380-391.

19 1. A robot may not injure a human being or, through inaction, allow a human being to come to harm. 2. A robot must obey the orders given it by human beings except where such orders would 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 Laws.

conclusions into the Soar Cognitive Architecture,²⁰ thereby creating machines capable of understanding moral concepts. While the funding they sought was denied, the team is still hoping to one day begin working on the project, despite the bleak financial prospects inherent to the field of ‘robot ethics’.

In 2017, a robot measuring 185 centimetres and 120 kilograms was developed in Italy, intended for work on disaster sites. It may be an early milestone, but considering the rapid advancement of technology, including artificial intelligence and robotics, it is hard to deny that machines with advanced artificial intelligence will soon become part of our everyday lives. Yet, it is important to remember that it isn’t the prevalence of anthropomorphic features that truly makes a robot useful or even potentially dangerous. Rather, it is their cognitive capability and their eventual actions.

It is painfully evident from everything we have discussed so far that the age of machines is here, forcing our societies and the rules of our societies to adapt. Robotics and artificial intelligence are the bearers of immense opportunity and risk alike. It is therefore essential that development, production and application all happen in a consciously regulated legal environment.

While scientists are increasingly of the view that future machines will be capable of better and more complex moral calculations than we are, when this day will come, nobody knows. In our view, however, tools made by man will ultimately remain tools made by man, no matter the sophistication, unable to become truly independent entities.²¹

1.5. *Current Practice*

Naturally, the question begs itself: how are we to best regulate the behaviour of these new machines? Should there be national and international legislation in place, or should we relegate the matter to their designers? In the following section, we will go through a number of areas where the advent of robotics and artificial intelligence is set to have an especially great impact on everyday life.

20 Soar is a highly popular cognitive system designed for robots, supporting problem solution and the accomplishment of complex goals.

21 BIRHER, Nándor: A mesterséges intelligencia mítosza, mint a nyugati vallásosság aktuális szellemi kihívása. *Studia Wesprimiensia*, 2017/1-2, 35-40.

2. Unmanned Aerial Vehicles

The debate around the military use of unmanned aerial vehicles, or ‘drones’ is simultaneously modern and ancient. It is ancient because the appearance of new weapons capable of killing from an ever greater distance – be them crossbows, cannons, submarines, bomber aircraft or nuclear missiles – has always caused moral outrage; at least until the complaining parties themselves managed to get a hold of them.

It is also modern, however, because up until this point in history, the control of these weapons always lay directly in human hands. This is certainly still true about currently employed combat drones, but the mass-appearance of fully automated models independent of direct human influence is no longer the purview of science fiction. However, even current drones remote-controlled by a human being are not without their moral challenges. In the United States, their operators are civilians, more often than not lacking any sort of military training, or the kind of morals traditionally found in the military ethos. Not being directly exposed to the bloody consequences of their actions, such persons, sitting in an office thousands of miles from the battlefield have a far smaller likelihood to exercise self-restraint than a soldier present in flesh and blood.²²

Much as history can tell us, debates such as this are almost invariably won by the parties exalting the effectiveness and utility of a new weapon, rather than those trying to argue the moral problems of the destruction they will cause. While in the case of nuclear weapons, we could see a gradual, if belated push for disarmament (Strategic Arms Limitation Talks, etc.), such measures aren’t even on the table with regards to combat drones. This is in no small part due to the consideration – as argued by the machines’ proponents – that despite all incidents, combat drones have still been causing less collateral damage to civilian populations than the more conventional means of bombing (strategic and tactical bombers, cruise missiles) have.

The usage of drones in a civilian environment might raise even more interesting philosophical questions, because the extreme circumstances inherent to war are very rarely found here. In the United States, the FAA Modernization and Reform Act of 2012 already touched upon the subject, although it focused more on the structural integration of drones, shying away from going

22 https://www.researchgate.net/publication/318075768_The_ethics_of_drone_warfare (2018. 11. 05.)

into too much detail about the intricacies of their use.²³

The most obvious problem here is the protection of both the data and the intimacy of law-abiding citizens, which governments, corporations and other private persons can all potentially endanger using UAVs. Since 2013, such machines can legally be employed in the United States as means of transportation and delivery, while Australia and New Zealand have already been testing this earlier.²⁴

It is impossible to know just what kind of measures of data collection – backdoor or blatantly upfront – these flying delivery machines will eventually be capable of, and the elimination of direct human contact during the reception of packages might impersonalise the process, unnerving or even intimidating some of the customers. The various scandals of Facebook and other Internet giants regarding phishing and other legal violations of data use certainly foreshadow a bleak future in this area.

3. Self-Driving Cars

Road vehicles operating without a driver are also a part of our reality now. They have been tested at multiple locations and they have already caused their first death, in Arizona.²⁵

Nevertheless, interested parties – such as McKinsey & Company – continue to insist on the technology's safety, promising accident reduction rates as high as ninety percent.²⁶ Considering the significant decrease in reaction time and thus, that of braking distance, this might certainly become a real number, once related technologies are sufficiently advanced. Further groundbreaking changes can be expected in the realm of traffic control: once the majority of cars will be self-driven, they can be linked onto a central computer system, which can organise their movement permissions without a need for traffic lights.²⁷

23 <https://www.congress.gov/bill/112th-congress/house-bill/658> (2018. 10. 15.)

24 <http://www.workplaceethicsadvice.com/2016/04/legal-and-ethical-concerns-of-commercial-using-drones.html> (2018. 10. 15.)

25 <https://techcrunch.com/story/uber-self-driving-car-strikes-and-kills-pedestrian-while-in-autonomous-mode/> (2018. 10. 15.)

26 <https://www.theglobeandmail.com/globe-drive/culture/technology/the-ethical-dilemmas-of-self-drivingcars/article37803470/> (2018. 10. 15.)

27 <https://theconversation.com/the-everyday-ethical-challenges-of-self-driving-cars-92710> (2018. 10. 15.)

Naturally, one of the most popular conundrums that revolve around self-driving cars is the eventuality that the advantages outlined above prove insufficient in the individual case, and an accident becomes unavoidable. While a human driver will often not have enough time to make a conscious and responsible decision, the AI will not be hindered by trivialities such as reaction time or deliberation. It will not freeze, panic or hesitate. It will act in accordance with its programming.²⁸

In case of an accident, there are several factors to consider:

- Should the protection of the vehicle's passengers be of absolute importance, much like how human drivers almost always prioritise their own wellbeing?
- Should the artificial intelligence's adherence to the law and traffic regulations enjoy priority?
- Should the number of lives in danger decide its course of action?
- Should there be an individual rating of potential victims that the computer would have to take into account?

Needless to say, the very possibility of this latter option already causes ideological outrage in many, so the currently most likely route seems to be the one that seeks to save as many lives as possible. However, while even a current-day program would be able to classify people based on heavily visible physical factors such as age, apparent pregnancy, etc. In the future, it would not be inconceivable that the AI driving the car could also access a central database containing far wider information on each potential victim. In a split second, the computer would then compare not only their external attributes, but also considerations such as education, health and criminal record, or – following the Chinese example – social productivity and political reliability, assessing and aggregating all these traits and scores, and then taking action that would result in the potential deaths of the least valuable of the citizens in danger.

Very few countries would be likely to admit to the use of such programming, but all the more countries might employ it in secret anyway; a possible future situation mirroring the current struggle around clandestine data collection and mass-surveillance through social media and other outlets.

28 <https://www.theglobeandmail.com/globe-drive/culture/technology/the-ethical-dilemmas-of-self-drivingcars/article37803470/> (2018. 10. 15.)

4. Disappearing Jobs, Profit Concentration

It is evident that automatisisation is set to eliminate a lot of jobs, much like how lamplighters, knocker-ups and carriage drivers were made obsolete by the advent of electric lighting, alarm clocks and taxis, respectively. Legislators will not only have to combat the social tension thus created²⁹, they will also have to ensure the just distribution of extra profits generated by robots, whose maintenance costs are usually far below a workman's wage. Considering the trends of the past few centuries, a continued decrease of working hours and the continued increase of wages, salaries and various benefits is to be expected; although the rapid aging of Western societies is set to counterbalance this tendency, requiring ever greater government funds to keep their social security systems afloat.

At the same time, automatisisation also creates jobs: more mental and less physical jobs than the ones the robots themselves displace, incentivising some of the freshly unemployed to further educate themselves.³⁰ It's another question whether or not individual countries will be able and willing to force their corporations – continuously increasing in profits and influence – to relinquish part of their newfound gains to society. According to Bill Gates, the taxing of machines is inevitable.³¹

An even greater issue is that of the stock markets, which are already operated to an eighty percent degree by artificial intelligence.³² Who will exercise their oversight? Another AI? We are at the gateway of creating professional systems of extreme efficiency. It is our responsibility that this efficiency must not remain the sole criterium of development, that it continues to be accompanied by human elements and human values. This is a rather distant hope, however, as we can barely define what these terms mean anymore. Given their inherently non-philosophical fields of expertise, the professionals designing and programming artificial intelligence are most likely going to be even less able to answer these questions, even though they are the ones who

29 Unfortunately, for the most part, automatisisation currently seems to threaten the jobs of people with lower education, and often, lower intelligence. As a consequence, they might also be driven to violent crime with a greater likelihood.

30 <https://www.logikk.com/articles/8-ethical-questions-in-artificial-intelligence/> (2018. 10. 15.)

31 <https://qz.com/911968/bill-gates-the-robot-that-takes-your-job-should-pay-taxes/> (2018 . 12. 08.)

32 <http://news.mit.edu/2016/christine-lagarde-compton-lecture-0307> (2018. 12. 08.)

will have to imbue the machines with a set of behavioral norms. How democratic control can eventually be exercised here remains another unknown.

If, however, we managed to establish a unified system of standards, capable of engineering a set of international norms with which to regulate the ethical programming of AI, such a system might well be able to help ensure peace and a more just distribution of goods. In order for this not to remain an utopia, we must start working on a new and truly practical system of norms.

5. Robot Rights

Today is the age of human rights. Every decade, newer and newer protected groups arise, to the extent that in the West, ideas have already begun to emerge to extend these rights and the legal guarantees they entail to non-human groups, too, such as chimpanzees and other primates.³³

From this point, it would not be a giant logical leap to start including machines that look like humans, talk like humans and are capable of human facial expressions. Perhaps strangely enough, Saudi Arabia became the first country that imbued an ‘artificial person’ named Sophia with citizenship.³⁴ As AI continues to progress and develop, it would not be inconceivable to see further initiatives in this field.

6. Summary

To conclude, we can state with a clear conscience that even though we are currently living in the pioneer years of artificial intelligence, legislative attempts in many of its areas are already signalling to us today that this chaotic state of affairs will not last forever. The nations of the world are already aware of the enormous significance of artificial intelligence and will not be leaving the question entirely in the hands of the private sector.

As far as the people are concerned, the great trust in technology that is so typical of our era shows no signs of abating. The popular cliché that machines will provide a solution to most of our problems continues to endure, and as such, it aptly illustrates how much of a substitute religion technology has become in the 21st century Western world.

33 https://en.wikipedia.org/wiki/Great_ape_personhood (2018. 10. 15.)

34 <https://learningenglish.voanews.com/a/saudi-arabia-first-nation-to-grant-citizenship-to-robot/4098338.html> (2018. 10. 15.)

Little has fundamentally changed since the advent of 'Industry 1.0'. We are now able to consume and sometimes squander our finite goods with increasing convenience, efficiency and injustice. Yet, there is still an entirely new challenge to 4.0, something we haven't seen before. Automatisations now runs across our entire society, taking an increasingly leading role. Self-driving cars aren't the big deal; self-driving stock markets, and especially, self-driving democracies are, which provide us with ever more professional and ever more automatised methods of influencing the masses. It is at this point where, upon properly understanding automation, we can finally put the global community to the service of humanity as a whole. This system could take over the role of post-war international organisations with fading power and prestige, and do so without the need to obfuscate itself in the abstract shadow of some 'Weltethos Projekt'.

On the other hand, if we fail to consciously approach automation, and instead elect to use its normative regulations in defence of particular interests or the purely technical maximalisation of efficiency, we will be in trouble. We will be making a weapon we will not truly control.