Summary

A Philosophy of Posthumanism and the *Praxis* of Robots in Autonomous Cars in the Aspect of the Collision of Intercultural Systems in Asia and Europe

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This doctoral dissertation is devoted to the philosophical understanding of how robots and artificial intelligence function in autonomous vehicles.

The aim of this dissertation is to identify solutions regarding the robotization and independence of machines as well as the transhumanist understanding of the world, taking into account the intercultural systems of two continents: Asia and Europe.

Posthumanism, associated with the mass introduction of new technologies and solutions, requires the redefinition of many concepts, both in the field of philosophy and in the social sciences.

Therefore, this dissertation deals with the new subjectivity (ANT - actor-network theory) categorized by Bruno Latour. According to Bruno Latour, ANT describes reality. Importantly for the perception of artificial intelligence (AI), this actor can be both a human and an inanimate being, or another network. If artificial intelligence and then superintelligence becomes an actor, the world of the laboratory will change beyond recognition; it may or may not resemble the one we know now. Latour's polemic with postmodern philosophy shows that not everything can be reduced to linguistic constructions.

The world of the exact sciences does not develop in a vacuum, only thanks to the cooperation between philosophy and computer science can we speak of the success of humanity in terms of ethical programming, for example, robots (algorithms) that control autonomous cars. As Max Tegmark argues, technical sciences need support and a humanistic view, because only then (as humanity) will we be able to face artificial intelligence, or super-intelligence, the emergence of which seems inevitable. Tegmark points out that superintelligence is one step away from self-awareness. As long as machines and robots do not have their own clear, strictly defined laws, it works against us -- humans -- to our disadvantage. We live by human rights, we refer to the Decalogue and other ethical systems, but we have not yet decided which rights robots and autonomous cars should enjoy. This question was raised by Patric Lin, Georg Bekay, and Keith Abney. They wondered what ethical system we should use when programming autonomous robots. As early as 1938, psychologists James Gibson and Laurence Crooks were

hypothesizing about the ethical behavior of driverless cars. This seems pioneering, given that in the last century, the pace of development of science that we are going to face today was not yet realized. What was only a theory then is affecting the practical life of more and more people. Rie Matsumi, Masao Nagai and Pongsathorn Raksincharoensak looked at it from a different perspective: paying attention to potential threats. The American government has created the Federal Automated Vehicles Policy document, which contains as many as 15 safety standards directly related to ethical values related to human life. In Asia, we cannot yet refer to any similar document.

There are discussions about the MTT -- Moral Turing Test, which is important for the future of autonomous cars. Question posed in the 1950s by Turing - "Can machines think?" - needs to be reconsidered in line with the development of science. According to Patric Lin, the accident optimization proposal is an important issue from a philosophical point of view, because it makes us, people who write algorithms and instructions, responsible for the fate of others. In an overview and at the same time critical statement, Marek Hetmański, referred to the computing power of machines, and what is further associated with it, to possible autonomy. Finally, there are the most fundamental questions: whether we humans can and should make such decisions for others.

Working on ethical and philosophical issues related to autonomous cars is part of our reality. We must remember that the mistakes made at the beginning will have unimaginable and unforeseeable consequences in the future as the machines learn.

Therefore, the question arises whether the Decalogue functioning in our human society can be translated into the robotic decalogue. Autonomous cars are just one example of the use of robots and machines. Such actions can be called decoding, or even -- in my opinion even more correctly -- re-coding of human ethics for machines. An ethical issue that cannot be overlooked is that of accountability. Gary Marchant and Rachel Lindor already pointed out the problems of fuzzy responsibility a few years ago. Relying on Isaac Asimov's three robotic laws is not enough. We face many philosophical questions. The trolley dilemma indicated by Philippa Foot remains unresolved.

Autonomous cars, robots and programs are issues directly related to the ethical and moral system. Philosophical thinking is needed for the common good. Philosophical systems were built on self-reflection. It also seems important that problems arise here and now, so we do not propose systems for the indefinite future, but work with existing dilemmas, trying to predict those that will arise.

Analysis of specific problems related to the functioning of algorithms in autonomous cars of their transhumanist existence, it will allow to trace the activities of not only the robots themselves, but also to propose philosophical solutions. Autonomous cars are programmed to adhere strictly to the rules of the road, but they also cause accidents. They will not change their lane when there is a painted solid line separating them from the neighboring lane, they will not run away from a road pirate who will drive into the back of our car, because they will not move when the red light is on. Then the question arises about the perfect driver. Is it possible to create it? There is also the philosophical "problem of many hands", i. e., the fuzzy responsibility for what machines and robots do.

In Europe, we respect the individual, or at least we believe that we want to respect them. In Asia, the common good prevails. Value systems are different. That is why consensus is so important not only between superpowers, but also between technological empires. The same algorithms should drive all cars. I explore the issues of communitarianism in Asia and individualism in Europe.

For now, autonomous cars are still equipped with a safety button (like a brake on a tram), which we are to use in the event of an impending, in our opinion, accident. Such intervention can cause many unexpected road accidents, because after pressing such a button the car will behave in an unpredictable manner. Certainly, in the near future, the safety brakes will disappear, it will be safer, argue the constructors. What algorithm will be in the car? This is not known yet. The date of launching autonomous cars on the market has not been announced yet, but we will soon hear from which year only such cars will be sold.

It is important that autonomous cars are good machines; therefore, you need to adopt a uniform system of philosophical values.

Knowing the theory and operation of autonomous cars, the functions of the algorithms they are controlled by can go deeper. The aforementioned ethical problems, the trolley dilemma, the problem of many hands and labor rights are just the tip of the ethical iceberg.

We encounter various philosophical approaches to the issue of artificial intelligence and autonomous cars; scientists are aware of the need for clear documents for which they will become the basis for writing programs and algorithms. At the same time, the degree of generality to which these laws should be prepared is a challenge for philosophers.

The *praxis* of robots and algorithms in autonomous vehicles is something we are facing today. From the ethical point of view, the situation seems very complicated, as the differences between Asian and European intercultural systems pose a great challenge for the creators of the rules of conduct for algorithms in autonomous cars.

As has been demonstrated, the philosophy of posthumanism is associated with accepting the increasing role of artificial intelligence. The concepts of artificial and superintelligence have been distinguished: the latter develops much more efficiently and gives itself greater autonomy. The analysis of the development of motorization and machine learning allowed to show the development paths for autonomous vehicles. Emphasizing that autonomous cars (with different degrees of autonomy so far) will not function in a vacuum provokes further discussions about how advanced ethical systems must be to cope with such a situation.

The presentation of the three main ethical dilemmas related to the functioning of autonomous vehicles on the roads -- the problem of many hands, the problem of choosing a target and the best-known problem of the trolley -- allowed to present potential solutions to ethical problems.

The discussion of the points system in China and the presentation of the legal situation within the European Union has made it possible to show the differences in the approach to making decisions in autonomous vehicles.

The aim of the study has been, on the one hand, to demonstrate how ethical issues can be interpreted in the case of the latest technological achievements, and on the other, to present potential development paths for science. In both cases, there were ethical issues as the center of attention. It has been emphasized many times that without taking into account the technical capabilities of autonomous vehicles and their limitations, it is impossible to propose solutions and ethical references. Therefore, a great deal of space is devoted to machine learning and defining algorithms.

The most important conclusion from the presented issues is the justification of the need to build coherent and transparent ethical systems for autonomous vehicles, regardless of the place where they will travel (in Europe or Asia). Only thanks to the transparency of algorithms driving vehicles will society be able to build a relationship based on trust in the robotic driver.

The accessibility to the codes should be free, the only limitation should be preventing the information from being hacked.

Another conclusion, apart from the need to unify autonomous systems, is transparent communication with users of autonomous vehicles. This communication should be based on a clear system of legal standards that will apply to producers, insurers and users themselves.

We are currently in a situation where science and technology are ahead of the legal norms. The lack of prepared legal systems delays the development of science, while the limitations resulting from the fact that normative acts were prepared in a different technological

reality are understandable. As presented in the section on robotic laws, ethical and legal issues related to the functioning of robots in everyday life are now one of the pressing issues. Granting robots legal personality (the example of the worker Sofia has been discussed) has interesting consequences related to the activities of robots and machines. For the time being, according to European Union legislation, robots do not have rights. As has been demonstrated, Asimov's robot laws, proposed in the last century, are just the beginning of the discussion. Comparing the work of robots to use in the history of slave labour is an interesting idea that allows one to think about what assumptions and changes should be adopted by the European Union, member states and other countries to ensure the coexistence of machines and people. What was once fantasy is now becoming reality.

Using the work of great philosophers and ethicists (Kant, Latour and many others) as a basis on which programmers can work. Artificial intelligence or more advanced super-intelligence will use ethical principles based on respect for people, nature and machines. The latter will allow machines, algorithms to develop without realizing black scenarios related to the domination of machines over humans. Latour's laboratory will be filled with both protein and silicon actants. Perhaps the development of quantum computers will change the reality that what is good and bad will exist at the same time. For now, however, the optimism associated with the development of science and ethics remains.

The thesis that was formulated at the beginning of the paper was that there is an increasing likelihood that the unreflective ceding of decision-making to machines alone, in this case autonomous vehicles, could pose a threat to humanity. As has been shown in the absence of the development of clear, transparent criteria for decision-making based on moral values, the distinction between what is human and what is not human may become blurred. Such a lack of boundaries may or may not lead to many disasters. We still, as humanity, have many ways in which the development of autonomy in machines and vehicles can go. As outlined "machine freedom" should be anchored in a value system that will be a worldwide human choice.