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ARTIFICIAL INTELLIGENCE, ETHICS, AND THE CATHOLIC CHURCH

Abstract
The article focused on problems of Artificial Intelligence, questions of ethics and role and position of the Catholic Church. Pontifical Academy for Life, Microsoft, IBM, FAO, the Italia Government, signed on February 2020 the "Call for an AI Ethics", a document developed to support an ethical approach to Artificial Intelligence and promote a sense of responsibility among organizations, governments, and institutions with the aim to create a future in which digital innovation and technological progress serve human genius and creativity and not their gradual replacement. The objective of the Pontifical Academy for Life is the defence and promotion of the value of human life and of the dignity of the person. Let us pray that the progress of robotics and artificial intelligence may always serve humankind, said pope Francis in November 2020.

Keywords: *Artificial Intelligence, Ethics, Catholic Church, Pontifical Academy for Life, Rome Call for Artificial Intelligence Ethics,*

Introduction

The name of the article consists of terms that may seem absolutely incoherent and illogical to the reader in the mutual sense. The reader may be wondering what the Catholic Church has in common with artificial intelligence, thus why the Catholic Church should deal with this issue at all, why it should be interested in it at all, and what kind of benefits it can bring to this topic. Of course, these questions are appropriate, but in this article we will point out the ethical aspects related to artificial intelligence and the role, position and contribution of the Catholic Church in this question.

Artificial intelligence and ethical issues associated with its application

The term artificial intelligence is a very broad term, under which a large number of computer applications can be subsumed, and there are many approaches on the basis of which the term artificial intelligence is defined[1]. The development of robotics leads to general ambiguities in relation to the impact on society and the need to comply with ethical standards in various areas of its use. A distinction needs to be made between artificial intelligence systems that are currently being developed and used, and general artificial intelligence, which includes the hypothetical ability of a machine or computer to understand, learn, feel a situation, an assignment, a task as well as a human. According to artificial intelligence experts, the development of computers with a human level of knowledge and intelligence or general artificial intelligence would require a completely different technique than is currently applied, and this perspective, while likely, will not be relevant in the coming decades. The US Science and Technology Council agrees with this conclusion in its 2016 report. (National Science and Technology Council, 2016, p.7-8) Based on these visions, it is believed in the scientific world that the ethical standards currently in place are sufficient. These ethical standards result from the training of professionals, are based on government oversight and are contained in codes of ethics. This conclusion stems from the fact that for currently used artificial intelligence systems (for example, semi-autonomous functions used in vehicles or medicine, which operate independently, but the final action, instruction, is left to the discretion of the managing entity, ie human – automation in civil aircraft, unmanned trains, where the machine provides only advisory notices and warnings, but final approval and action remains with the person operating the equipment) no new ethical standards are required and protection is sufficient. (Ngo, T., 2017) The issue of ethical contexts and artificial intelligence

[1] It is not the ambition of this contribution to address the issue of the definition of artificial intelligence, and in terms of the topic we do not consider it necessary.

is also dealt with by the European institutions. A comprehensive study has been prepared for the European Parliament and addresses the ethical and moral issues arising from the development and implementation of artificial intelligence technologies in different fields and from different perspectives. It also draws up guidelines and standards for this issue, developed by countries around the world. (European Parliamentary Research Service, 2020)

Artificial Intelligence and the Catholic Church

The Catholic Church's attitudes and views on technology could be examined in the light of developments from biblical times to the present, which is certainly beyond the scope of this contribution. For this reason, we will confine ourselves to the current views and challenges of its leaders and the activities of the Vatican authorities in charge of examining this issue. Of course, current views follow from those of the past, and the Catholic Church is consistent in its view of the issue of ethics in technology. From a general point of view, the Church approaches technology in such a way that some technologies are good, some are neutral and some are bad. It may seem that this is a very simplified view, but in fact it is the application of the first command of natural law from the pen of St. Thomas Aquinas "do good and avoid evil" (Summa theologica, I-II 94.2). The other commands of natural law are then based on this basic principle, so that the commands of natural law include doing all that reason naturally recognizes as human good and avoiding everything that reason considers evil. Good has the nature of a goal, evil is turning away from a goal. Therefore, reason knows everything as good to what man has a natural inclination (an inclination identical to nature, not an inclination acquired, as this can contradict the natural law). (Čunderlík Čerbová, V., 2016, p. 57-58) The basic principle is that good technologies support and help good activities, and bad technologies help bad deeds. If good is to be done and followed, then good technology is to be used. If evil needs to be avoided, then technologies that contribute to evil should not be used. When it comes to technologies that enable both good and bad deeds, careful consideration is needed on the part of government institutions. An explanation of this abstract principle is

contained in the Encyclical Laudato Si´ – on the care of our common home of Pope Francis,[2] while Francis identifies and describes examples of good[3] but also bad technologies[4]. However, Pope Francis also points to the fact that some technologies may be ambiguous, double-meaning, in terms of their ethical positivity or negativity, while it is possible due to human activity to direct such

[2] Article no. 102 Laudato Si´: Humanity has entered a new era in which our technical prowess has brought us to a crossroads. We are the beneficiaries of two centuries of enormous waves of change: steam engines, railways, the telegraph, electricity, automobiles, aeroplanes, chemical industries, modern medicine, information technology and, more recently, the digital revolution, robotics, biotechnologies and nanotechnologies. It is right to rejoice in these advances and to be excited by the immense possibilities which they continue to open up before us, for "science and technology are wonderful products of a God-given human creativity". The modification of nature for useful purposes has distinguished the human family from the beginning; technology itself "expresses the inner tension that impels man gradually to overcome material limitations". Technology has remedied countless evils which used to harm and limit human beings. How can we not feel gratitude and appreciation for this progress, especially in the fields of medicine, engineering and communications? How could we not acknowledge the work of many scientists and engineers who have provided alternatives to make development sustainable?

[3] Article no. 103 Laudato Si´: Technoscience, when well directed, can produce important means of improving the quality of human life, from useful domestic appliances to great transportation systems, bridges, buildings and public spaces. It can also produce art and enable men and women immersed in the material world to "leap" into the world of beauty. Who can deny the beauty of an aircraft or a skyscraper? Valuable works of art and music now make use of new technologies. So, in the beauty intended by the one who uses new technical instruments and in the contemplation of such beauty, a quantum leap occurs, resulting in a fulfilment which is uniquely human.

[4] Article no. 104 Laudato Si´: Yet it must also be recognized that nuclear energy, biotechnology, information technology, knowledge of our DNA, and many other abilities which we have acquired, have given us tremendous power. More precisely, they have given those with the knowledge, and especially the economic resources to use them, an impressive dominance over the whole of humanity and the entire world. Never has humanity had such power over itself, yet nothing ensures that it will be used wisely, particularly when we consider how it is currently being used. We need but think of the nuclear bombs dropped in the middle of the twentieth century, or the array of technology which Nazism, Communism and other totalitarian regimes have employed to kill millions of people, to say nothing of the increasingly deadly arsenal of weapons available for modern warfare. In whose hands does all this power lie, or will it eventually end up? It is extremely risky for a small part of humanity to have it.

ambiguous technology towards ethical positivity[5]. Despite his positive attitude towards technology, Pope Francis also points to the other side of technology, because despite the facilitation of practical life, they cause pessimism about the future and human happiness. However, people are weak enough to resist the temptations of new technologies, and their judgment is numb in terms of distinguishing their ethics[6]. Pope Francis calls for a thorough analysis of the ethics of every single technology in the context of values, its aims for positive and sustainable progress[7]. At the same time, the Pope offers the reader a tool through which it is possible to analyse technologies in terms of their positivity or negativity, namely the natural law inscribed in every single person, referring in this regard to the words of Pope John Paul II. in the Encyclical *Centesimus*

[5] Article no. 112 Laudato Si´: Yet we can once more broaden our vision. We have the freedom needed to limit and direct technology; we can put it at the service of another type of progress, one which is healthier, more human, more social, more integral. Liberation from the dominant technocratic paradigm does in fact happen sometimes, for example, when cooperatives of small producers adopt less polluting means of production, and opt for a non-consumerist model of life, recreation and community. Or when technology is directed primarily to resolving people's concrete problems, truly helping them live with more dignity and less suffering. Or indeed when the desire to create and contemplate beauty manages to overcome reductionism through a kind of salvation which occurs in beauty and in those who behold it. An authentic humanity, calling for a new synthesis, seems to dwell in the midst of our technological culture, almost unnoticed, like a mist seeping gently beneath a closed door. Will the promise last, in spite of everything, with all that is authentic rising up in stubborn resistance?

[6] Article no. 113 Laudato Si´: There is also the fact that people no longer seem to believe in a happy future; they no longer have blind trust in a better tomorrow based on the present state of the world and our technical abilities. There is a growing awareness that scientific and technological progress cannot be equated with the progress of humanity and history, a growing sense that the way to a better future lies elsewhere. This is not to reject the possibilities which technology continues to offer us. But humanity has changed profoundly, and the accumulation of constant novelties exalts a superficiality which pulls us in one direction. It becomes difficult to pause and recover depth in life. (…) Let us refuse to resign ourselves to this and continue to wonder about the purpose and meaning of everything. Otherwise, we would simply legitimate the present situation and need new forms of escapism to help us endure the emptiness.

[7] Article no. 114 Laudato Si´: All of this shows the urgent need for us to move forward in a bold cultural revolution. Science and technology are not neutral; from the beginning to the end of a process, various intentions and possibilities are in play and can take on distinct shapes. Nobody is suggesting a return to the Stone Age, but we do need to slow down and look at reality in a different way, to appropriate the positive and sustainable progress which has been made, but also to recover the values and the great goals swept away by our unrestrained delusions of grandeur.

Annus[8] w On the question of the sufficiency of ethical regulation of artificial intelligence, the Catholic Church is in opposition to scientists who proclaim its sufficiency[9]. On the contrary, it calls for a thorough analysis and dialogue of religion and science, through which the ethical issues of technology would be analysed[10].

Current activities of the Catholic Church in the field of artificial intelligence

The Pontifical Academy for Life (Ponticicia Accademia per la Vita) deals with the issue of ethical connections and artificial intelligence. In the address to the 25th anniversary of the General Assembly of this academy, Pope Francis emphasized „Artificial Intelligence, robotics and other technological innovations must be so employed that they contribute to the service of humanity and to the protection of our common home, rather than to the contrary, as some assessments unfortunately foresee. The inherent dignity of every human being must be firmly places at the centre of our reflection and action." (Pope Francis, 2019)

The Pontifical Academy for Life strives to intersect faith with science and technology in order to identify the paths of multiple voices, and thus to walk side by side with respect. In 2019, they implemented the Robo-ethics project,

[8] Article no. 115 Laudato Si´: Modern anthropocentrism has paradoxically ended up prizing technical thought over reality, since "the technological mind sees nature as an insensate order, as a cold body of facts, as a mere 'given', as an object of utility, as raw material to be hammered into useful shape; it views the cosmos similarly as a mere 'space' into which objects can be thrown with complete indifference". (…) He must therefore respect the natural and moral structure with which he has been endowed.

[9] Čl. 105 Laudato Si: (…) The fact is that "contemporary man has not been trained to use power well",because our immense technological development has not been accompanied by a development in human responsibility, values and conscience. (…) It is possible that we do not grasp the gravity of the challenges now before us. (…) But human beings are not completely autonomous. (…) We have certain superficial mechanisms, but we cannot claim to have a sound ethics, a culture and spirituality genuinely capable of setting limits and teaching clear-minded self-restraint. Article no. 136 Laudato Si´: In the same way, when technology disregards the great ethical principles, it ends up considering any practice whatsoever as licit.

[10] Article no. 62 Laudato Si´: Nonetheless, science and religion, with their distinctive approaches to understanding reality, can enter into an intense dialogue fruitful for both.

which resulted in a number of stimulating discussions. One of the topics on this project was a contribution on the challenges and possibilities of Catholic theology in discussions of robo-ethics. At first glance, theology and robotics do not seem to have much in common. In a kind of "two kingdoms," robotics and artificial intelligence seem to deal with the physical world, while theology deals with the spiritual. Pope Francis' calls on this issue call for cooperation. Theology needs to get more and more interested in robotics in order to offer moral guidance and leadership. Technology in general, and robotic and artificial intelligence in particular, matter to theology because they are altering culture and creating a new grammar about technological activity. Theological engagement in robotics and artificial intelligence is needed to grapple with the epistemological and ontological issues raised by the robotic culture and artificial intelligence. Christian ethics, which is theological discourse, contributes to differentiate the human from the machine, to throw light on the nature of human and robotic agency and to assess the benefit from the harm of robotics. Once placed in a theological narrative the ethical, moral and religious claims made by robotics and artificial intelligence become more significant and intriguing. (Agius, E., 2019, p. 7*).* The fundamental difference between humans and machines is a key point for the ongoing debate, which needs to be supported by integrating the considerations offered by religious denominations as such, which are fully involved in pluralistic societies. In the universe of robotics, we can find two large types of clearly-differentiated technological instruments: on one hand, there are the robots, exclusively controlled by the human being. In these cases, the full deliberative capacity depends on the people, and the machine's scope of action is limited to 'executing' the orders of its owner. On the other end, there are other robots with greater sophistication which have their 'own intelligence' and are capable of making decisions based on algorithms and programmed variables. This second set of robots may learn to perform tasks without human direction or supervision, and are called "autonomous". These systems may manifest themselves as high-technology robotic systems or as intelligent software, such as the "bots". Many of these are released to the world without supervision and perform things that have not been planned even by their designers or human owners. This opens up an endless number of questions and ethical concerns which need to be considered. Therefore, it is necessary to implement ethical codes for robot's

programmers and set up ethical committees for the investigation in robotics which may facilitate the interdisciplinary debate between experts, scientists and legal specialists. Special attention should be paid to psychological and social influences. Ethics related to artificial intelligence must be based on values that will be the result of consensus. (Carballo, M., 2019, p. 30-31) From this point of view, the Catholic Church, through the Pontifical Academy for Life, organized another project called RenAIssance: Human-centered artificial intelligence. The event was accompanied by the signing of the Rome Call for Ethics in the Field of Artificial Intelligence, which addresses the need for ethical principles of human-centered artificial intelligence, developed by an interdisciplinary working group coordinated by the Pontifical Academy for Life. The first signatories to this call were the President of the Pontifical Academy for Life (Abp Vincenzo Paglia), the President of Microsoft (Brad Smith), the Executive Vice President of IBM (John Kelly III), the Director General of the Office of Food and Agriculture Control (Dongyu Qu), the Italian Minister for technological innovation and digitization (Paola Pisano). (Sinibaldi, E. et al., 2020) The challenge for artificial intelligence ethics encourages dialogue with all stakeholders to develop digital ethics., ‚Given the innovative and complex nature of the questions posed by digital transformation, it is essential for all the stakeholders involved to work together and for all the needs affected by artificial intelligence to be represented. This Call is a step forward with a view to growing with a common understanding and searching for a language and solutions we can share. Based on this, we can acknowledge and accept responsibilities that take into account the entire process of technological innovation, from design through to distribution and use, encouraging real commitment in a range of practical scenarios. In the long term, the values and principles that we are able to instil in artificial intelligence will help to establish a framework that regulates and acts as a point of reference for digital ethics, guiding our actions and promoting the use of technology to benefit humanity and the environment.“ (Rome Call for Artificial Intelligence Ethics, 2020)

The challenge covers three areas: Ethics, Education and Rights. The ethics of artificial intelligence is to be based on six principles: 1. Transparency: in principle, artificial intelligence systems must be explainable; 2. Inclusion: the needs of all human beings must be taken into consideration so that everyone can benefit and all individuals can be offered the best possible conditions

to express themselves and develop; 3. Responsibility: those who design and deploy the use of artificial intelligence must proceed with responsibility and transparency; 4. Impartiality: do not create or act according to bias, thus safeguarding fairness and human dignity; 5. Reliability: artificial intelligence systems must be able to work reliably; 6. Security and privacy: artificial intelligence systems must work securely and respect the privacy of users. These principles are fundamental elements of good innovation. (Rome Call for Artificial Intelligence Ethics, 2020)

The Pontifical Academy for Life also established a working group on robo-etics. This group is made up of experts from various scientific disciplines, including natural, social, applied sciences, philosophy and theology, and all continents are represented in terms of geography. This working group reflected on embodiment, activity and intelligence, especially in relation to the differences between humans and machines. In this issue, Christian anthropology appears to be an inspiring source of knowledge. In Christian ethics, moral judgment is based on free actions and deliberate decisions made in conscience. Human beings were created with consciousness and free will, able to create interpersonal relationships, to be aware of the presence of other persons (by knowing their consciousness and free will). Although machines can form relationships with other entities, humans have a distinctive ability to challenge the criteria and principles on which they make decisions, and are capable of critical (self) reflection and ethical decision making. Internal intentionality, that is, moral judgment, can thus be strictly attributed to human beings, although the machine behavior that results from basic programming can also be positively evaluated when subjected to moral judgment. Despite the widespread use of machines, autonomy in an ethically relevant sense can only be attributed to human beings, as a result of basic cognitive processes (involving self-awareness and authorship according to reasons and values) closely and preferentially identified with human dignity and human morality. Christian anthropology formulates a vision of human beings that is called to cultivate, develop, and magnify creation and to create a future-oriented ethic that is open and responsible for development. Such an ethic promotes an attitude towards science and technology that is fundamentally confident and innovation-friendly. (Sinibaldi, E. et al., 2020)

Likewise, Pope Francis consistently points out the positives that technology brings to his previous statements, but sets the limits that must be observed, and in our opinion, these limits can be provided exactly by Christian anthropology.

„*Artificial intelligence is at the heart of the epochal change we are experiencing. Robotics can make a better world possible if it is joined to the common good. Indeed, if technological progress increases inequalities, it is not true progress. Future advances should be oriented towards respecting the dignity of the person and of Creation. Let us pray that the progress of robotics and artificial intelligence may always serve humankind… we could say, may it "be human.*". (Pope Francis, 2020)

Conclusion

In contemporary Christianity, there are many reactions to technology, from the radically optimistic progressivism of Mormon transhumanists to the technological skepticism of the Amish. Where is the Catholic Church in this spectrum? The Catholic Church, as it was already mentioned, takes a positive view of good technology. At present it however draws attention to the risks associated with the uncontrollable development of technology. The Church's problem in this matter may be the lack of adequate philosophy and technological theology. All the recent popes and the current pope, however, have begun to address these shortcomings. The idea of differentiated technological development has been a part of Catholic thinking for centuries and is also entering secular circles. (Green, B., P., 2017, p. 12)

In all questions of moral judgment of technology, it is necessary to pursue good and turn away from evil, and to follow the natural tendencies of reason, which in each case distinguishes from the point of view of conscience what is good and what is bad. However, this requires a morally good person to be able to distinguish between dual-use technologies and to reject uses that are not in line with ethical values and are therefore bad. However, people are weak and often overwhelmed by the power that technology allows them to do. Overwhelmed by power, we can believe that we are divine. It is therefore more than necessary to reflect on ethical questions related to artificial intelligence and to conduct interdisciplinary dialogues on this topic. The Catholic Church calls for and initiates this dialogue and brings with it opportunities and

opinions on how to approach ethics related to artificial intelligence. Although at first glance it may seem that it has nothing to offer and the issue of artificial intelligence does not concern it, the opposite is true. The Catholic Church is an equal partner to the scientific world in these questions.

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