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ARTIFICIAL INTELLIGENCE AND THE TECHNOCRATIC PARADIGM: AN INDIAN PERSPECTIVE

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Abstract

We live in turbulent times. Using the tools of technology, humanity slowly surges ahead. Scientific advancements have obviously made our lives better, cosier and trouble-free. The technological progress, which is presented as a paradigm, lies in the hands of the privileged few. Pope Francis, who uses this term 'technocratic paradigm' points out that due to this orientation, the human person as the creator and simulator, tends to do more harm than good. The Digital India programme by the government fails to take into account the millions of poor who do not get detected by the technical radar. The victims of this paradigm are the poor and the vulnerable of the society, who are also rightful inhabitants of this planet earth. The Human person, who is a thinking animal, needs to think intelligently towards the wellbeing of the entire society. Technology needs to be pro-poor, pro-planet and prosperity sans fraudulent profit. If unchecked, losing its ethical soul and neutrality, the technological progress will create maximum mayhem and moral madness.

Keywords: Artificial Intelligence; Digital Poverty; Greed; *Laudato Si'*; Power; Pope Francis; Technocratic Paradigm; The Poor

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1. Introduction

Wondering at the marvel of God's creation of the human person, the Psalmist sing:

What are human beings that you are mindful of them,
mortals that you care for them?

Yet you have made them a little lower than God,
and crowned them with glory and honour.

You have given them dominion over the works of your hands;
you have put all things under their feet (Ps 8:4-6)

Beauty and brokenness, lights and shadows, joys and sorrows – all make up the human person as well as the history of humankind. The human person, who is the *Imago Dei*, has created *Imago Hominis*. With the ingenuity of our technological superiority, with artificial intelligence we have come to the creation of the image of the human person!

Latest technologies with good and bad tentacles have reached India too. India's Prime Minister Shri Narendra Modi in 2015 launched an ambitious programme called "The Digital India." Renita D'Souza writes that Digital India initiative has been quite successful in several respects, which include:

1.19 lakh gram panchayats connected via optical fibre under the BharatNet initiative; 2.39 crore people use digilockers; 7.45 lakh crore have bank accounts under the Total Direct Benefit Transfers scheme; There are about 2.50 crore e-pensioners; about 4.5 crore downloads of the BHIM app.¹

While adulating the success of these technical progress, in the same breath, Renita D'Souza points out that still there are about 43,000 villages that are yet to be connected to basic telephony.² Poor internet connectivity, weak network strengths, digital illiteracy and inability to understand new technologies have proven to be major setbacks.³ In this background, India needs to talk about artificial intelligence.

What is artificial intelligence (AI)?⁴ The Encyclopaedia Britannica defines: "AI is the ability of digital computers or computer-controlled robots to solve problems that are normally associated with the higher

¹This is a long list. I have edited some. Renita D'Souza, "India to Become a \$ 5 Trillion Economy by 2025? Not without Eliminating Digital Poverty," in ORF website, April 09, 2020, <https://www.orfonline.org/expert-speak/india-to-become-a-5-trillion-economy-by-2025-not-without-eliminating-digital-poverty-64317/>. Accessed on 4th July 2020. Note: One lakh is 100 thousand; One crore is 10 million.

²D'Souza, "India to Become a \$ 5 Trillion Economy by 2025?."

³D'Souza, "India to Become a \$ 5 Trillion Economy by 2025?."

⁴From here onwards, "AI" will refer Artificial Intelligence.

intellectual processing capabilities of humans.”⁵ The West uses artificial intelligence ubiquitously. These western countries also have rather good track record on human rights, in tackling poverty and ensuring equality in the societal realm. As Indians, where do we stand? I have a few questions:

1. A rich boy who was also a proud owner of a small robot, asked his mother: “Amma, we are all talking about the Coronavirus, I have a question – Will the virus affect my robot?” The mother was stunned and speechless. The robot was his helper and playmate. In the time of pandemic, has technology helped us substantially?

2. A few weeks back, the Indian media reported about the suicide of the famous Hindi actor Sushant Singh Rajput. *The Deccan Herald* reported that this actor bought a piece of land, in a region called the *Mare Muscoviense*, or the “Sea of Muscovy,” two years ago.⁶ Famous actor Sha Rukh Khan was also gifted a piece of land in moon by a fan. Now, since Sushant Singh is no more, who will claim that piece of land and how can that claim be fulfilled? Is *moon - real estate* a new scientific fad?

3. We are in the age of ‘Online classes.’ A 12th standard boy committed suicide recently in Tamilnadu, because of poverty, for the simple reason that his mother could not buy him an android phone. The boy could not attend the online classes and so, he took his life.⁷ Online classes pose many difficulties to poor families.

This article analyses some of the ethical challenges posed by technology, which the Holy Father Francis brings under the term “The Technocratic Paradigm”⁸ in his encyclical *Laudato Si’*, in the Indian context. Most of the time, when humanity’s technological prowess gains superiority, the poor and the vulnerable of the society

⁵While quoting the Encyclopaedia Britannica, Wolfgang Ertel points out that it is very difficult to exactly define artificial intelligence. Wolfgang Ertel, *Introduction to Artificial Intelligence*, Switzerland: Springer International, 2007, 2.

⁶See D.H. Web Desk, “When Sushant Singh Rajput Bought Land on the Moon,” *The Deccan Herald*, <https://www.deccanherald.com/national/when-sushant-singh-rajput-bought-land-on-the-moon-849437.html>. Accessed on 4th July 2020.

⁷Premkumar, “12th Class Student Commits Suicide for not Giving Cell-Phone for Online Class in Kalaingar,” *seithigal.com*. 14th July 2020, <https://www.kalaingarseithigal.com/tamilnadu/2020/07/14/12th-class-student-commits-suicide-for-not-giving-cell-phone-for-online-class>. Accessed on 16th July 2020. Suicide stories from the student community are also reported from Assam, Kerala and from other States of India, all relating to Online classes.

⁸Technocratic Paradigm is the word used by Pope Francis in his encyclical *Laudato Si’* to refer to the unidimensional pattern of development ushered in by today’s globalization process.

become its victims. This article tries to see the technocratic paradigm from the eyes of the bruised and battered.

2. God of Natural Intelligence and Men of Artificial Stupidity

We believe that the whole world, together with the creation and people, walks in union with God towards its final fulfilment of eschaton. This final goal of the *summum bonum* or the realization of the Kingdom of God is always a challenge that is propelling the human race towards God. God had bestowed on the human person abundant natural intelligence. This intelligence, together with the reasoning capacity enables us to know and adore God. Faith, which is a human act, always seeks understanding.⁹

For a fulfilling human flourishing, one needs both faith and reason. Faith and reason help one to become fully human and fully alive. A perfect combination of faith and reason will lead one to discover 'Truth,' and the ultimate truth is Jesus Himself. Faith and reason are intrinsically connected and they ought to go together. While writing his encyclical *Fides et Ratio*, Saint Pope John Paul II begins with these fine words:

Faith and reason are like two wings on which the human spirit rises to the contemplation of truth; and God has placed in the human heart a desire to know the truth—in a word, to know Himself—so that, by knowing and loving God, men and women may also come to the fullness of truth about themselves.¹⁰

Reason prepares the way for faith. But, according to Saint John Paul II, with the advancement of rationalism, which many consider as a blessing, reason and faith got separated. Faith without reason becomes superstition and reason without faith leads one to nihilism.¹¹ So, to be a balanced believer, one has to have a good blend of both faith and reason. For someone who does not believe in God, faith might become a 'just' humanism. But ultimately a good human person, with faith in a god or with faith in the humanity coupled with sound reason, would strive for the betterment of the society.

Christianity believes that God endows the human person with a superb brain. The human person is expected to develop it to achieve

⁹*Catechism of the Catholic Church*, No. 158. This famous adage of Anselm is also one of the definitions of theology, as "Faith seeking Understanding."

¹⁰John Paul II, *Fides et Ratio*, 14th September 1998, No. 1, http://www.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_14091998_fides-et-ratio.html. Accessed on 16th June 2020.

¹¹A more elaborate interaction between faith and reason is presented in the Papal encyclical *Fides et Ratio* by John Paul II.

its fullest capability. In this analysis, one can say that artificial intelligence as well as other scientific advancements are created by the human person. The scientific advancements are in a special way, unique to the human person's capacity for growth and demonstrates her/his ability for advanced scientific progress. I would say that if the human person so far has not made any scientific advancement, or failed in some applied science area, that would mean her/his callousness, by not engaging the God-given talents for development!

Today the Church sees scientific advancements not as a threat but as a creative blessing! Gone are the days of Copernican confrontations! The Church welcomes development, but scrutinizes them with a rigorous moral and ethical lens! While writing about the limitations of artificial intelligence, John Paul Mueller and Luca Massaron write this way:

An AI accepts cleaned data as input, analyses it, finds the patterns, and provides a requested output... an AI doesn't understand anything, it can't create or discover anything new, and it has no intrapersonal knowledge, so it can't empathize with anyone about anything... The critical piece of information is that an AI behaves as designed by a human programmer, and what you often take for intelligence is only a mix of clever programming and vast amounts of data analysed in a specific manner.¹²

It is clear that it is the human person, who programmes the artificial intelligence or any other scientific instrument that performs certain commands, written in a certain computer language with a particular algorithm to execute the action. The incubation code comes from the human person and the execution is done with machine learning.

Subsequently, in my view, God would have been happy and jubilant when His created beings try to create something very novel, original, and innovative that help the entire human family. God will be utterly unhappy, perhaps only when we become evil genius like Frankenstein.¹³ This monster kept on making life miserable for his creator Victor (Frankenstein) and even demanded that a female, brutal creature like him (!) should be created by its human creator – Victor.

¹²John Paul Mueller & Luca Massaron, *Artificial Intelligence For Dummies*, New Jersey: John Wiley & Sons, Inc, 2018, 287.

¹³The enlightening and frightening story of *Frankenstein; or The Modern Prometheus* is a novel written by English author Mary Shelley in 1818. This story narrates how the scientist Victor Frankenstein creates a monster that goes on a killing spree and framing its creator Victor, as the perpetrator of all the crimes.

Therefore, the enhancement of technical intelligence beneficial to humanity is excellent and is welcome and needs to be progressed. On the other hand, idiocy that is manifested as evil, wicked, criminal and coarse needs to be curbed. This is for the simple reason, that the human person is the recipient of the wonderful blessing called 'intelligence.'

3. The Human Person and Intelligence

Years ago, Blaise Pascal wrote these famous lines:

Man is only a reed, the weakest in nature, but he is a thinking reed. There is no need for the whole universe to take up arms to crush him: a vapour, a drop of water is enough to kill him. But even if the universe were to crush him, man would still be nobler than his slayer, because he knows that he is dying and the advantage the universe has over him. The universe knows none of this. Thus, all our dignity consists in thought. It is on thought that we must depend for our recovery, not on space and time, which we could never fill. Let us then strive to think well; that is the basic principle of morality.¹⁴

Here, Pascal seem to be overemphasising the importance of the human person as a thinking animal. One can dispute this claim today.¹⁵ 'Thinking' as we understand today with the indomitable reason to live, is coupled with morality and so we analyse one's own actions and others with a sense of right and wrong, evolving moral and ethical principles as we progress as a human family. This faculty of 'thinking' comes with a certain 'intelligence.'

Quoting Howard Gardner, John Paul Mueller and Luca Massaron say that the human person, while using the brain, do not use just one type of intelligence, but rather rely on multiple intelligences to perform tasks. The authors talk about seven types of intelligences. They are:

1. Visual-spatial Intelligence (to understand the physical environment).

¹⁴Blaise Pascal, *Pensées*, (Translation) Section One: Papers Classified by Pascal (under Transition from knowledge of man to knowledge of God), London: Penguin Books, 1995.

¹⁵There are people who argue that animals also 'think' but not like the human beings. Ernst M. Conradie writes: "Human distinctiveness is not contested; in fact, every species is by definition distinctive, as is every individual specimen within a species. To claim that humans are unique, is quite another matter and immediately open for contestation." If one expands this line of thinking, it will also touch morality. For a little detailed discussion on this area one can read: Ernst M. Conradie, "Do Only Humans Sin? In Conversation with Frans de Waal," *Issues in Science and Theology: Are We Special? Human Uniqueness in Science and Theology*, ed. Michael Fuller et al, Edinburgh: Springer International, 2017, 117-133.

2. Bodily kinaesthetic Intelligence (Body movements, such as those used by a surgeon or a dancer, require precision and body awareness).
3. Creative Intelligence (Creativity is the act of developing a new pattern of thought that results in unique output in the form of art, music, and writing).
4. Interpersonal Intelligence (Interacting with others occurs at several levels).
5. Intrapersonal Intelligence (Looking inward to understand one's own interests and then setting goals).
6. Linguistic Intelligence (This form of intelligence includes understanding spoken and written input, ... In humans, this intelligence comes from different areas of the brain).
7. Logical & Mathematical Intelligence (Calculating a result, performing comparisons, exploring patterns, and considering relationships).¹⁶

While working, performing or executing a task, the human person employs one or more intelligence, which the technologically superior machines, driven by artificial intelligence, cannot do. The authors also point out and say that a machine controlled by artificial intelligence, can't suddenly become self-aware because, it lacks the means, any means, of expressing the emotion required to become self-aware.¹⁷ They continue... "Simply possessing those levels of intelligence wouldn't be enough, either. Humans have a spark in them—something that scientists don't understand... Without understanding what that spark is, science can't recreate it as part of an AI."¹⁸

In France, in the Rodin Museum, one can see the famous sculpture 'The Thinker' by Auguste Rodin. *Can Artificial Intelligence really "Think?"* This is a question that is grappling the robot scientists now. The very idea of an artificial entity, capable of thinking on its own, with a synthetic consciousness resembling the humans, would present us catastrophic consequences, with implications to ethical and moral issues. Though the computing machines do not think like the human person, we name them as 'thinking machines'!

Mark Ryan writes that "AI is inflexible and incapable of anticipating or remembering outside of its definite, limited programming."¹⁹ For example, a highly advanced machine-learning

¹⁶Mueller and Massaron, *Artificial Intelligence for Dummies*, 10-11.

¹⁷Mueller and Massaron, *Artificial Intelligence for Dummies*, 288.

¹⁸Mueller and Massaron, *Artificial Intelligence for Dummies*, 288.

¹⁹Mark Ryan, "Are AI 'Thinking Machines' Really Thinking?" in *Towards Data Science*, November 1, 2019, <https://towardsdatascience.com/are-ai-thinking-machines-really-thinking-1fa9d758de6d>. Accessed on 4th July 2020.

algorithm, designed to make predictions in road-traffic patterns, cannot repurpose its intelligence to have a conversation or play a game.”²⁰ Thinking is a subjective activity that takes place in one’s own brain. Each of us has our own subjective experience and we human beings can also think in abstraction. Can the artificially intelligent machine really think like a human person? If they can, perhaps we need to reformulate our moral sciences!

4. The Technocratic Paradigm and Some Ethical Challenges

Many of us are very familiar with the term “Paradigm Shift.” It is a term introduced by the American philosopher Thomas Kuhn, in his 1962 book *The Structure of Scientific Revolutions*. The word ‘paradigm shift’ denotes a fundamental, basic change in the way we understand a concept that advances in a linear way of progression. It also denotes a consensus arrived by a scientific community. In other simple words, it is a radical new way of perceiving a changing reality. A shift in the model or pattern of understanding a scientific reality. In this write-up, we zero in on the term “Technocratic Paradigm.”

The Holy Father Francis used this term “Technocratic Paradigm” in his encyclical *Laudato Si’*.²¹ While praising the scientific advancements as products of creativity, the Holy Father says, “Humanity has entered a new era ...with steam engines, railways, the telegraph, electricity, automobiles, aeroplanes, chemical industries, modern medicine, information technology and, more recently, the digital revolution, robotics, biotechnologies and nanotechnologies.”²²

By using the term ‘technocratic paradigm’ the Holy Father points out that the modern technology has given the human race tremendous power and warns that power that is accumulated in the hands of a small minority would do major harm to the entire humanity, if it is not exercised with responsibility. According to the Holy Father, the vast and dangerous ‘power’ that is resting on the hands of the few individuals is not completely free, because human beings are not completely autonomous.²³

What exactly is the problem with this technocratic paradigm? The Holy Father writes, “The basic problem goes even deeper: it is the

²⁰Ryan, “Are AI ‘Thinking Machines’ Really Thinking?”

²¹The third chapter of the encyclical *Laudato Si’* talks about this technocratic paradigm. Francis, *Laudato Si’*, 24th May 2015, http://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html. Accessed on 16th June 2020.

²²Francis, *Laudato Si’*, 102.

²³Francis, *Laudato Si’*, 105.

way that humanity has taken up technology and its development according to an undifferentiated and one-dimensional paradigm.”²⁴ The Pontiff rightly says that today the human family robs what is supposed to be gifts of nature. Instead of working with the nature, today the human person exploits and manipulates nature for her/his own advantage, thus inviting problem for the entire humanity.

4.1 The Poor: As Victims of Technology

Technological progress seldom takes place in a level playing ground and the players are also not equal in power and strength. Technology makes life smooth as silk, elegant as a swan and efficient like a swiss army knife! Yet the ethical question would be: Has it benefitted the poor and vulnerable in the remote corner of India? Are our poor people ready to receive these latest technologies or do they still have a hand to mouth existence? The answer for these questions would be a very resounding ‘no.’

While describing the ‘Digital India,’ Government of India says that it has three key vision areas.²⁵ They are: 1. Digital Infrastructure as a Core Utility to Every Citizen, 2. Governance & Services on Demand, 3. Digital Empowerment of Citizens. Indeed, lofty goals to be achieved!

The policy sounds terrific. What about the ground realities?

As early as November 2016, after a year of the digital India launch, Javed Anver of *India Today* wrote, “From Jio to demonetisation, Digital India keeps failing – The core digital infrastructure in India is just too bad for any big bang project.”²⁶ He points out to poor connectivity, too much load on the network, slowing down or failing payment gateways and India not having a robust telecom network as some of the reasons for the digital projects’ failure.²⁷ Not only the failure in technical infrastructure but also millions of people are still poor in their capacity to buy, understand and manage latest digital advancements.

As I indicated earlier, young people continue to commit suicide unable to cope with the tension the technology thrusts on them.

²⁴Francis, *Laudato Si'*, 106.

²⁵See Government of India web portal on *Digital India*, <https://digitalindia.gov.in/>. Accessed on 7th July 2020.

²⁶Javed Anver, “From Jio to Demonetisation, Digital India Keeps Failing,” in *India Today*, November 15, 2016, <https://www.indiatoday.in/technology/talking-points/story/from-jio-to-demonetisation-digital-india-keeps-failing-352129-2016-11-15>. Accessed on 6th July 2020.

²⁷Anver, “From Jio to Demonetisation, Digital India Keeps Failing.”

Thousands of first-generation learners are denied the chance of entering learning portals and deprived of their chances and opportunities to come up in life.

4. 2. Increased Unemployment

At the surface level, the fruits of some of the technological wonders seem very tasty. On the other hand, the same technology poses many ethical challenges. Certainly, introducing machines with AI will reduce the labour force. It will spell disaster to a country that boasts of human capital.

Govindan Parayil points out that there is a changing relationship between capital, labour and knowledge and writes that today we live in the era of 'information capitalism' or 'knowledge capitalism.'²⁸ He argues that the modern, digital economy which is based on the cyberspace, is entirely new and has made a rupture with traditional mode of development and growth patterns. The industrial capitalism that was based on bloated companies with huge infrastructure is slowly becoming an artefact of the past. When workers are unable to reach the workplace, companies ask them to work from home.²⁹ The problem is, whether the poor in India are capable of understanding this change in the development model. While companies promote 'work from home' mode, many poor people still remain at home idly doing nothing – because of unemployment!

The problem of Unemployment is an added challenge from the artificial intelligence and from the technocratic paradigm. Julia Bosmann, in her article, talks of ethical issues in artificial intelligence and prioritizes unemployment as the first one.³⁰ She points out that when the self-driving trucks promised by Tesla's Elon Musk come into the workforce, millions of individuals will lose their jobs.

²⁸Govindan Parayil, ed., *Political Economy And Information Capitalism In India – Digital Divide, Development And Equity*, New York: Palgrave Macmillan, 2005, 1.

²⁹ Adi Gaskell writes at length about the technological and psychological challenges of working from home. He argues in Forbes Magazine that there are problems like internet connectivity and issues connected with mental health. Adi Gaskell, "The Technological and Psychological Challenges of Working from Home," in *The Forbes*, <https://www.forbes.com/sites/adigaskell/2020/04/03/the-technological-and-psychological-challenges-of-working-from-home/#450b41a938db>. Accessed on 4th July 2020.

³⁰Julia Bosmann also has some interesting videos on the future of technology. Julia Bosmann, "Top 9 Ethical Issues in Artificial Intelligence," <https://www.weforum.org/agenda/2016/10/top-10-ethical-issues-in-artificial-intelligence/>. Accessed on 4th July 2020.

This is just in the area of trucks and tractors. If we look at the rapid rate of automation in other fields, we may see panic. This is a real problem for developing countries like India, where millions are working in the service sector, where in the future, machines would replace men. More automation in the industry would usher in more inequality. Julia Bossmann writes:

We are already seeing a widening wealth gap, where start-up founders take home a large portion of the economic surplus they create. In 2014, roughly the same revenues were generated by the three biggest companies in Detroit and the three biggest companies in Silicon Valley ... only in Silicon Valley there were 10 times fewer employees.³¹

For a country like India, which has a surplus workforce of manual labourers, the consequences of automation, especially with the introduction of machines with artificial intelligence would be catastrophic. When the machines do the work of humans, they need not be paid and so the capitalistic investor will reap a huge profit. This sort of moneymaking would fuel the inequality gap more, feeding and abetting the societal crisis more.

4.3. The Unfathomable Greed

Radix omnium malorum avaritia, wrote St Paul to the early Church.³² A rough translation would be “The root of all the evils is avarice.” Greed was considered the most social and by extension the most political of all the sins.³³ Today in the age of technology, when greed sets in the minds of the influential and powerful people who are the helm of affairs, it displays enormous amount of individual as well as societal cruelty. Instruments and gadgets equipped with the latest scientific technology normally help the hunter and not the hunted.

Greed was one of the chief enemies of human growth. The *National Catholic Reporter* wrote as one of its headings, “Pope Francis: Technology + greed = disaster.”³⁴ The Holy Father points out that economists, financiers and experts in technology accept the idea of ‘unlimited growth,’ “based on the lie” that there is an infinite supply

³¹Bossmann, “Top 9 Ethical Issues in Artificial Intelligence.”

³²Phyllis A. Tickle, *Greed: The Seven Deadly Sins*, New York: Oxford University Press, 2004. This is small book that talks at length about greed. The author says of our seven demons, greed is the mistress (sic) page 12). The feminine pejorative remark seems to have crept in the history in a strong way!

³³Tickle, *Greed: The Seven Deadly Sins*.

³⁴Thomas Reese, “Pope Francis: Technology + Greed = Disaster,” *National Catholic Reporter*, Aug 13, 2015, <https://www.ncronline.org/blogs/faith-and-justice/pope-francis-technology-greed-disaster>. Accessed on 13th June 2020.

of the earth's goods, and this leads to the planet being squeezed dry beyond every limit.³⁵

4.4. Quest for Unlimited Power

"Doctor Faustus" is one of the names in English literature associated with the quest for unlimited power. Faustus wants to be like God and so enters into a pact with Devil to enjoy unlimited power. He dies miserably after selling his soul to the devil for eternal damnation. The modern society sees many 'Faustus' in the making, craving for unlimited fame and power. Today many countries would like to boast of their higher and superior military prowess. Most of this superiority claims stem from the fact that they possess advance scientific weaponry in which artificial intelligence play a crucial role.

'Artificial intelligence' is the new buzzword in the military establishments that always bays for more blood. The new-age missiles with a considerable payload are being designed with the ability for combat platforms to self-control, self-regulate and self-actuate, using inherent computing and decision-making capabilities.³⁶ It is reported that the Chinese military is developing a family of cruise missiles dubbed as "death drones," and these missiles will use artificial intelligence to guide themselves in flight and potentially even choose new targets.³⁷

4.5. Technology Replacing God

"Salvation by Algorithm" – screams the title of an essay by the famous author Yuval Harari.³⁸ Harari strongly argues that this 21st century belongs to the god of algorithms and new technologies kill old gods and give birth to new gods. He says, "If you want to meet the prophets who will remake the 21st century, don't bother going to the Arabian Desert or the Jordan Valley – go to Silicon Valley."³⁹ Jonathan Merritt argues in his very powerful essay that Artificial Intelligence may be the greatest threat to Christian theology since Charles Darwin's *On the Origin of Species*.⁴⁰ Merritt writes, quoting

³⁵Reese, "Pope Francis: Technology + Greed = Disaster."

³⁶"Artificial Intelligence in Missile Technology," <http://ai.business/2017/01/03/artificial-intelligence-in-missile-technology/>. Accessed on 14th June 2020.

³⁷"Artificial Intelligence in Missile Technology."

³⁸Yuval Harari, "Salvation by Algorithm: God, Technology and the New 21st-Century Religions," in *NewStatesman*, 9 September 2016, <https://www.newstatesman.com/politics/uk/2016/09/salvation-algorithm-god-technology-and-new-21st-century-religions>. Accessed on 14th June 2020.

³⁹Harari, "Salvation by Algorithm."

⁴⁰Jonathan Merritt, "Is AI a Threat to Christianity? Are you there, God? It's I, Robot," *The Atlantic*, February 3, 2017, <https://www.theatlantic.com/technology/>

Kevin Kelly, the co-founder of *Wired* magazine, who says “While concerns mostly centre on economics, government and ethics, there’s also a spiritual dimension to what we’re making...If you create other things that think for themselves, a serious theological disruption will occur.”⁴¹

Quoting Romano Guardini, the Holy Father writes, “ Technology tends to absorb everything into its ironclad logic, and...moves forward in the final analysis neither for profit nor for the well-being of the human race, that in the most radical sense of the term power, is its motive—“*a lordship over all.*”⁴² So, technology might become the alpha and omega of creation!

The above mentioned are some of the fears that technology, if unchecked will try to damage the religious beliefs and disturb the spiritual realm that is experienced by millions as traditional places that give hope, peace, consolation and meaning for life.

5. Towards Future

1. I would like to begin with a promising note. Japan today talks about concepts like Society 5.0 and Japan’s Fugaku, a supercomputer jointly developed by RIKEN and Fujitsu Ltd, tops world’s fastest supercomputer list.⁴³ This Japanese plan of Society 5.0 is a well-integrated plan combining the Internet of Things, artificial intelligence and robotics. Japan has ushered in this ambitious digital plan to make life easy for the Japanese people, especially the elderly. Japan thinks that by introducing this plan, the Japanese society can tackle problems like—falling population, super aging, disasters, terrorism and environmental problems.⁴⁴ This could be a blueprint for India too!

2. Technology means power. While describing the power that comes with the latest scientific developments, the Holy Father writes:

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.

archive/2017/02/artificial-intelligence-christianity/515463/. Accessed on 4th July 2020.

⁴¹Merritt, “Is AI a Threat to Christianity?”

⁴²Francis, *Laudato Si’*, 108. Emphasis is mine.

⁴³John Xavier, “Japan’s Fugaku Tops World’s Fastest Supercomputer List,” *The Hindu*, June 24, 2020, <https://www.thehindu.com/sci-tech/technology/japans-fugaku-tops-worlds-fastest-supercomputer-list/article31904759.ece>. Accessed on 10th July 2020.

⁴⁴Xavier, “Japan’s Fugaku Tops World’s Fastest Supercomputer List.”

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.⁴⁵

He further notes that there is a tendency to believe that every increase in power means an increase of ‘progress’ itself.”⁴⁶ If we follow the thinking of the Holy Father, one can find his logic very true and compelling. All the good virtues and societal merits do not automatically follow the technological progress. We need many regulators and watchdogs!

3. Technology needs an ethical soul. Yuval Harari writes, “Because they are human creations that seek to cater to human fears and hopes, religions always dance a delicate tango with the technology of the day... Religion and technology push one another, depend on one another, and cannot stray too far from one another.”⁴⁷ He correctly points out that technology needs religion because, whatever be the invention, the scientific output needs a direction in its usage. For example, though engineers invented the locomotives, it is the ideological convictions that direct to which city that this particular locomotive go and to which section of the people get benefitted, from this locomotive. So, religion needs to do the vital part of giving the correct ethical direction to the scientific discoveries, otherwise, the inventions may fall into the hands of fascist dictators or nasty ideological crooks who hijack the direction of the society for their vested narcissistic interests.

Recently in February 2020, Vatican called for a meeting on ethics and artificial intelligence. Apart from other ethicists around the globe, notable artificial intelligence researchers were invited along

⁴⁵Francis, *Laudato Si'*, 104.

⁴⁶Francis, *Laudato Si'*, 105. Apart from *Laudato Si'*, In his weekly column in the Hindu Business Line, Jinoy Jose writes: “What’s the real problem here? This new binary, say experts, doesn’t augur well for the efforts to create a digital future for the very fact that two economic superpowers control all the digital infrastructure and can, hypothetically for now, set the digital agenda for the rest of the world. And, interestingly, this big divide has happened only in the past five years. Importantly, no other segment—be it manufacturing, automobiles or even banking—has seen such a concentration of power, products and services.” Jinoy Jose P., “Digital Divide: The Big Picture is a Bad Picture,” in *The Hindu Business Line*, 26th December 2018, <https://www.thehindubusinessline.com/opinion/columns/the-cheat-sheet/digital-divide-the-big-picture-is-a-bad-pitcure/article25835202.ece>. Accessed on 4th July 2020.

⁴⁷Harari, “Salvation by Algorithm.”

with tech giants like IBM and Microsoft. They were there at the invitation of the Holy Father. The outcome is named as “Algor Ethics.”⁴⁸ The ethical principles deliberated by the participants of this meeting needs to reach the wider audience and get the nod and approval of the governments. One can sincerely hope that the dream of the Holy Father comes true!

6. Conclusion

In George Orwell’s *Animal Farm*, towards the end, the author presents a beautiful scene. The animals have driven out the human masters and the pigs have become the new masters. The pigs have also a new law that says, “All animals are equal but some animals are more equal than others.”⁴⁹ The technocratic paradigm, whether it is artificial intelligence, machine learning, data mining, nanobots or any other robotic scientific advancements will place certainly some people above the others. The scientific advancements are not ethically neutral. As pointed out earlier, the very name artificial intelligence denotes that the intelligence of the machine is artificial and it cannot think on its own.

If we are not careful and vigilant, one can expect another form of colonization. This time, it would be a digital colonization. The colonizers would be people with money and muscle power. In addition, in the machine language, the AI cannot be programmed with notions of compassion, sympathy altruism and even ethical parameters! Everything would be mere numbers and just black and white for the ease of computation.

I would like to end with a fine reminder and caution that came from the Holy Father. He tells us that by alerting the society of the impending dangers of this particular technocratic paradigm, he is not propagating people to go back to the caves or to the stone age and he does not belong to the tribe of the luddites.⁵⁰ The Holy Father exhorts

⁴⁸ “Algor Ethics” is another big area. Machines should serve the human community and not enslave them is the crux of the matter.

⁴⁹ George Orwell’s political satire *Animal Farm* (1945) was a parody on the erstwhile Soviet regime. The author meant that the higher echelons of the Soviet ruling elite, became more powerful in the Soviet socialist regime. Here, in this context, the animals have their own seven commandments. “All animals are equal” is the seventh and final commandment. This particular commandment is rewritten to denote that pigs have a higher say!

⁵⁰Luddite is a term that dates back to the early 19th century weavers and textile workers who were opposed to the new, mechanized industry. These people were afraid that machines will replace them. Today, ‘luddite’ is an umbrella term that denotes someone who dislike new technology. The name is said to be derived from a

us to move forward in a bold cultural revolution but mindful of the poor and the vulnerable of the society. He writes:

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*.⁵¹

This is indeed a challenge and let humanity recover the vanishing values, rediscover its great goals and redefine its pro-poor charter!

mythical Ned Ludd, a young worker who was rumoured to have destroyed a textile apparatus in 1779 in England. Evan Andrews, "Who Were the Luddites?" Aug 7, 2015, <https://www.history.com/news/who-were-the-luddites>. Accessed on 4th July 2020.

⁵¹Francis, *Laudato Si'*, 114. Emphasis is mine!