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THE BENEFITS AND THREATS OF MODERN TECHNICIZATION AND SCIENCE

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Abstract

Science and technology predicted that the world in about 2020 will become a global society of mankind, with diverse cultures, ethnicity, and history living together. There will emerge the greatness of man. There will be equality: the weak, the sick and the poor will have more rights and dignity. Obviously, science and technology have extended and expanded our powers. However, their predictions seem to be the contrary. The promises of wellbeing and easy life have turned to threats to human life and dignity as science and technology have created technologized and anesthetic humans in an automated society. Mankind is being pushed to extinction. This work identifies techno-scientific prowess. At the same time, it provides bioethical caveat to science and technology so that they do not endanger the existence of human species and its descents on earth.

Key words: *Technicization, Science, Benefits, Threats, Person, Ethics*

Introduction

It was Thomasma and Thomasine who noted:

The moment in which we live today represents the glorification of the human intelligence and the need to be proud to belong to this generation. The scientists merit all our recognition because they have introduced and discovered the world that hides in us. We are a generation which has in her hands rich and new acquisitions to bring about the responsibility of future humanity.¹ “We are fortunate.”

Today, there is irresistible advancement of science and technology in every facet of human life. It is our power that technology expands². The “Yesterday’s science fiction becomes Today’s scientific fact.”³ In the work of

¹ D.C. Thomasma, & K. Thomasine. (eds.). *Birth to Death. Science and Bioethics.* (Cambridge: Cambridge University Press, 1999), 65.

² D.C. Thomasma, - K.. Thomasine, (eds.), *Birth to Death. Science and Bioethics*, p. 179.

³ V. Mortensen ed., *Life and Death. Moral Implications of Biotechnology*, (WCC Publications, Switzerland), 1995, Preface page.

Thomasma et. al., it was predicted that through science and technology the world in about 2020 will be a hybrid of all human races. Cultures, ethnicity, and history will become globalized. The human responsibility will be how to stay together. Then there will emerge the greatness of man. There will global cohabitation, with the principle of equality where the weak, the sick and the poor have more rights and dignity⁴. Obviously, science and technology have contributed immensely to the development of the human world. However, the predictions of a perfect world seem to be the contrary. Science with some technological inventions has brought a lot of challenges and threats to the human life and dignity. They are indiscriminately putting in danger the survival of human beings on the face of the earth. The paradoxical good news of science and technology has resulted to the construction of tools for the manipulation and destruction of all forms of life – from the beginning of human life to its end: artificial fertilization and inseminations, contraceptives and abortifacients etc., selection of sexes of human species, euthanasia, etc. Today, machines and automations substitute human beings in work places through the use of artificial intelligent and mechanically controlled robots. This has rendered man redundantly unemployed and untimely retired. There are today weapons of mass destruction and environmental pollutants that render human beings and animals prone to viruses/diseases and death and deplete the ozone layer. Science and biotechnology have shown their potentials to facilitate the spread of diseases, (Ebola, HIV/AIDs, Corona virus), etc., through inadvertent mishap or deliberate intent

Through history there has been critical preoccupation about the sustainable survival of human species on the face of the earth on account of the effects of scientism and technicization. And recently however, it has taken the centre stage in political, social, moral and even religious discussions and treatises. Scientific research over the years reveals that at present, the earth is the only known biosphere, and the only planet that is a home to man. Science and technology left untamed, will spell cataclysm to the entire humanity and all other biotic organisms and the earth. The question is: Do we technicize (technologize) humanity or humanize technology? Should we apply everything scientifically or technologically possible to human persons, animals and environment? How could we harness astutely our techno-

⁴ D.C. Thomasma, - K.. Thomasine, (eds.), Birth to Death. Science and Bioethics, p. 65.

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scientific knowledge and at the same time promote human life and also better the quality of life of future generations and our environment?

This paper therefore examines the benefits and threats of science and technicization. It will maintain the “dual-use potential” of research finding, that is, the ability of science and technology to aid both destructive and non-destructive purposes. The intention here is not to stop man from exercising his intellectual ingenuity. It rather solicits a techno-scientific culture that will be in consonance with personalistic ethics which promotes human flourishing on earth.

Science and Technicization: What are they?

The word science is often regarded as an investigation of phenomena or enquiry in its broad sense. Science, from the Latin ***Scientia***, is "the systematic application of human intelligence for the purpose of knowing causally all of reality in its ultimate principles"⁵. Science (natural) is a study of physical world by systematic observation and experiment. It is defined as the observation, identification, description, experimental investigation and theoretical explanation of natural phenomena⁶. It aims at discovering and knowing the natural phenomena and to give explanations to them. In fact, science exposes the hidden nature around us for the good of humanity.

The term “Technicization” is coined from the word technology. Technology is the means by which we perform a task using objects that are not part of our body. When we crack nuts with our teeth, we are being natural. When we use a nutcracker to get the job done, we are being technological⁷. Technology extends our natural powers so that we can do things which we either could not do naturally or could not do easily. The automobile for instance, extends our ability to walk, the telescope extends our power of sight⁸. Technicization then, is the condition of having a highly technical implementation and ability. It means the control of equipment with advanced technology. It is the process of making mankind/things increasingly technical

⁵ J.J. Sanguineti, *Logic and gnoseology*, (Rome: Urban University press), 1987, p 294.

⁶ L.T. Wilson, *Definition of Science*. June 16, 2009. Retrieved 13 March, 2022, from <http://explorable.com>: <http://explorable.com/definition-of-science>.

⁷ D. Demarco, *The Anesthetic Society*. (Christendom publications, Virginia), 1982, p. 15.

⁸ D. Demarco, *The Anesthetic Society ...*, 1982, p. 15.

or technological in character through automation, mechanization, digitalization, etc⁹.

Giant Strides of Modern Science and Technology

Science and technology have achieved and are still achieving giant strides in the human advancement. Some of the areas of these achievements are in automation and mechanization technologies.

Automation is the application in production of machines that run continuously and that are self-regulating and self-correcting.¹⁰ As a more complex output of science and technology, automation is an inbuilt program that keeps machines working by themselves without any human interference. Automation refers to “machines that do the work from the neck up”. Such machines are more advanced than mechanical machines. They do the works of observation, perception, and judgement. Automated machines are highly independent of human operation. In a strict sense, automation takes man away from the work of human energy, skill, intelligence and control; it also takes him away from the machines. Cybernetics the scientific study of communication and control is a stage in the development of automation. This new science brought about a new breed of cybernetic creatures called cyborgs which is half man and half machine. Automation also brought about robotics where these robots do almost all that human being does. Automation is closely linked with Artificial Intelligence (AI). Its sole aim is to reduce human involvement in most activities especially in the area of military.

Mechanization technology on the other hand is:

The extension of man’s manual skills into machines through some form or application of power. It implies getting machines to do those manual works hitherto done by animals and men in the course of production.¹¹

Here, machines carry out certain tasks that were formally done manually by man. “It did away with the job from the shoulders down”, that is, those works man did with his physical strengths like in farm works. Today man engages in

⁹ Oxford Lexicon, meaning of Technicization in English: www.lexicon.com, visited 8 February, 2022.

¹⁰ J. Okogbuo, *Modern Science: Threshold and Philosophical problems*. (Owerri: Hallmark Digital Image Services), 2015, p.249.

¹¹ J. Okogbuo, *Modern Science: Threshold and Philosophical problems*, p. 249.

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mechanized agricultural practices with the aid of machines, like tractors, harvesters, etc.¹²

Genetic engineering is another area of great techno-scientific improvement. This is a technological programme of direct and intentional alteration of the genetic make-up of an organism by insertion of gene of other organisms or gene prepared in the laboratory. A major element of the new technology conveys the sense of creating new organism with novel genetic constitution through selective breeding. Thus, plants and animals could acquire desirable qualities.

Science and technology have also extended their sways in Nuclear Technology through nuclear physics. This is the study of the structure and property of nuclei, nuclear reactions and nuclear collisions. These reactions can be in form of nuclear fission or nuclear fusion, etc.

Benefits of Science and Technicization to Mankind

In the words of Paul Kurtz:

The development of science in the modern world has enormous benefits for mankind in the past 350 years ..., reducing human pain and suffering and contributing to human welfare and happiness. Ever since the enlightenment period, men and women have looked into science and technology as powerful instrument for the continued improvement of the human condition on this planet.¹³

The recent progress of science and technology has profoundly influenced human conduct. They are rousing men and women everywhere in the world to more and more cooperation and association with one another. They have enhanced the exchange of goods and ideas, and travels from country to another have greatly increased. Close relations of individuals, families, intermediate associations belonging to different countries have become vastly more frequent. Conferences between heads of states are held at shorter intervals. At the same time the interdependence of national economies has grown deeper, so that they become, as it were, integral parts of the one world economy. In education, teaching and learning now take place online through zoom, video conferences, etc. Finally, the social progress, order, security and peace of each

¹² J. Okogbuo, *Modern Science: Threshold and Philosophical problems*, p. 249.

¹³ P. Kurtz, "Academic Anti-science" in "Free Inquiry Magazine", Vol. 14., (4), 1994, pg. 60.

country are necessarily connected with that of all other countries.¹⁴ Accordingly, the prediction about 2020 seems almost a truism.¹⁵

Prior to the advent of science and technology, the human labour world was one characterized by manual/physical works with crude implements. With the advancement of science and technology, there became a shift from manual to mechanized works and more recently to automation and digitalization. Through them, it is less stressful for man to accomplish great works. Automation helps in transforming nature and human environment. Through automation human's dependence on physical strength in carrying out very tedious works has been reduced to the most minimal. It also creates more time for humans as works are completed in little time. This also gives him the opportunity to have his leisure as against the earlier times when man was consumed in his work for hours. One of the most important benefits is its provision of more income (economic gain) due to increase in production. Automation yields lots of income because of its managerial efficiency and a very commendable speed which brings about increase in output in little time. The use of automation also increases material abundance both to the producers and the consumers as a result of some features like servo-mechanism, reduced downtime, continuous operation of plants, and uniformity of products and removal of unpredictable human factor variable. By this means, aggregate and per man-hour production is enormously increased¹⁶. Automation leads to the expansion of markets, increase in employment, additional income and leisure".¹⁷ Since some of these machines have no need for human labour, they can be situated in remote areas; taking them away from the cities, bringing them closer to markets and raw materials so as to even reduce cost. Relocating them away from the cities makes the cities free for residence and safe from other hazards.

Genetic Engineering is applied today in many different fields of life: agriculture, pharmacy, medicine, etc.¹⁸ Through genetic engineering, artificial fertilization/insemination has made it possible for couples who need babies

¹⁴ Pope John XXIII, *Pacem in Terris*, no. 30

¹⁵ D.C. Thomasma, et al., ed., *Birth to Death...*, p. 65.

¹⁶ J. Okogbuo, *Modern Science: Threshold and Philosophical problems*, p. 251.

¹⁷ J. Okogbuo *Modern Science: Threshold and Philosophical problems*, p.254.

¹⁸ A. Asekhauno, W. Osemwegie, *Genetic Engineering, Artificial Intelligence, and Natural Man: An Existential Inquiry into Being and Rights*. *Journal of Philosophical Investigation*, Vol. 13/Issue, 28, 2019, p. 184.

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but are unable to have them through the natural process to now have them. Today cloning is already practiced on animals in many nations of the world to maximize meat and food. Genetic engineering has made possible also the mapping of the human genome (completed in 2003). Powerful computers are systematically mapping the human genome – the complete set of information contained in the human gene. Scientists predict that once this information is collated and stored, it will be used as a primary source of understanding human biology, medicine and the genetic causes of many incurable diseases such as Alzheimer, diabetes, heart and breast cancers, prostate cancer and HIV/AIDS and even the most recent Covid-19 virus. In fact today, sickness and death are being demystified. Already scientists have been able to double the life span of certain organisms and biological systems and they think this can be applied to humans. Cases of de-extinction of organisms have been reported too. In 2003 a team of Spanish and French scientists recreated the Pyrenean Ibex which became extinct three years earlier¹⁹. Furthermore, genetic screening involving sex selections and screening of human embryos for certain genetic disorders are possible today. This enables doctors to identify many genetic disorders and correct them through somatic gene and germ-line therapies. Through genetic engineering, the DNA Fingerprinting – a technique of determining the order of bases in a person's DNA is possible today. Since each human person has unique DNA, a single human hair or a tiny drop of blood, semen or saliva is sufficient to identify someone. Consequently, the potential for crime detection becomes very obvious.

Energy is central to national development. Nuclear (technology) energy generated from nuclear reactions is put to a number of practical uses. It is used to light up entire cities and to generate other needed energy. Nuclear energy is almost replacing energy from coal, oil and natural gas which are in many cases fast depleting. Ships and submarines travelling the oceans and seas of the world are powered by nuclear energy. In no distant future, nuclear energy may become man's main source of energy in the industrial and agricultural sectors to operate the machines and plants used in the sectors. Nuclear energy is also applied in the medical field for diagnostic and

¹⁹ C. Zimmer, *The revival of an extinct species is no longer a fantasy. But is it a good idea?* In *Bringing Them Back to Life* (National Geographic Magazine Aragon Spain), April, 2013). Nationalgeographic.com

therapeutic procedures. Radioactive movement of isotopes is used as tracers. Likewise, the movement of instruments such as Geiger counters. Tracers can be used to monitor the flow of blood in biological systems, to study the metabolism of plants and animals and to determine the structure of complex molecules. Still in therapeutic procedure, radioisotopes can be used to treat/destroy diseased cancerous cells and its growth checked or stopped.

Ethical Concern of the Threats of Science and Technicization to Mankind

Science and technology have promised humanity a world of wellbeing and relaxation. However, their negative effects have significantly affected the entire biosphere that such impacts are marking the end of human/animal species and their environments. Man's interaction with his environment is resulting to great degradation. Techno-scientific enterprises have subjected the earth – the only home of man to possible dangers. We shall in this section exfoliate some of the threats of science and technology to mankind and to other biotic and environment in general.

Although automation has great merits, there seem to be more demerits here as it affects humans, animals and their environment. The human world is one characterized by work. In fact, man is working being. Today, however, there is a link between automation and idleness (unemployment). Man is gradually being alienated from his work. With the invention of these high technologies, it is obvious that man is no longer in direct touch with his work. Machines have been constructed to take the place of man. Pope St. John Paul II recognizes this fact in his Encyclical Letter, *On the Dignity of Human Work* when he remarked that:

While it may seem that in the industrial process it is the machine that 'works' and we merely supervise it, making it function and keeping it going in various ways, it is also true that for this very reason industrial development provides grounds for reproposing in new ways the question of human work.²⁰

In an automated society, machines do almost everything and man does little or nothing. As automation takes over the industries, lots of people are left redundant and this surely puts them away from work, keeping them

²⁰ John Paul II, *On Human Work (Laborem Exercens)*, (Nairobi: Pauline Pub., Africa), 1987, p.14.

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unemployed. Automation further makes the skills and even experts and specialist obsolete and no longer relevant. This is because there are also machines that direct, inspect, service, guide and regulate other machines in production. So people who have put in their time in learning these things are now put aside, especially if they are unable to update themselves in the use of the modern facilities. This causes unemployment, material insecurity, psychological insecurity, the fear of change. The fact remains that despite the new and creative breakthrough in technology, it cannot be completely ruled out that many people are put out of job with the presence of automation. All these defeat the nature of work which aims at the perfection of the human person that accomplishes it. Work primarily is geared towards self-realization²¹. With automation, man feels completely alienated from his nature as a working being.

In spite of its glowing attractions, genetic engineering is fraught with great ethical, social, physical, and legal dangers. Genetic engineering treads on the fundamental elements of human and animal organisms – the genes. It is the creation of organisms with novel genetic constitutions. Genetic engineering reshapes its victims (human, animal, plant) nature. Genetic engineering is putting into the hands of man the ability to play God. It interferes with human nature. At the breathtaking rate genetic engineering is currently going, it threatens human life and dignity.

Through genetic engineering, artificial insemination, donor sperm, donor eggs, donor embryo, or donor womb and surrogacy have become common practices in our society²². All these violate the natural way in which human beings come into the world. Genetic engineering dehumanizes the parents, the children and the donors involved. Genetic engineering is also charged of desacralizing and disrespecting human life by the way it manipulates it. This accusation is based on Immanuel Kant's principles of respect for human life: "Act that you treat humanity, whether in your own person or in the person of any other, always at the same time as an end, never

²¹ E.G. Ekwuru, *Basic Introductory Themes and Issues in Philosophical Anthropology*. (Owerri: Living Flames Resources), 2010, p.190.

²² A.C. Ibe, *Ethical Implications of Assisted Reproductive Technology as the panacea for childlessness in Africa*, in *Journal Of Liberal Studies (Special Edition)*, University of Nsukka, Nigeria, Vol. 17, No. 4, January, 2020, p. 796.

merely as a means”²³. Geneticists and biologists are charged of holding reductionist view of life. According to Jeremy Rifkin geneticists and biologists hold that there is nothing particularly sacred about species since the important unit of life is no more the organisms but rather the gene. Such contention has boosted the reckless practice of genetically modified organisms which are already upsetting the ecosystem²⁴. They have increased resistance to diseases and environmental stresses as some of them can become indestructible. In genetic engineering, the problem of patenting arises, whether it is right or not to patent human genes. The issue here is the morality of owning and commercializing life or parts of human body. Genetic engineering breeches natural species’ boundaries and violates the natural integrity of species. It violates the genetic boundaries that separate totally unrelated species. This drastically changes the inherent nature of the species involved. Here, technology alters the genetic makeup of cells, including the transfer of genes within and across species boundary. It is a direct manipulation of an organism’s gene using biotechnology in order to modify biologic heredity of the given organism/person.²⁵ .

Nuclear technology has also become a serious threat to man and the universe in general. Its threats include nuclear explosion, radiation, pollution and nuclear waste and disposition problems. Nuclear pollutions in the form of radiation from nuclear power plants and nuclear weapon explosions constitute huge danger to the environment. The Nuclear power-plant accident in Three Mile Island in Pennsylvania in the United State of America and Chernobyl in the Soviet Union are examples of its hazards in our society. A nuclear bomb testing in both war and peaceful times has always been a threat to humans and animals and their environment. The effects of nuclear explosion are tremendous with health and death effects. This is the reason for its ban by the Nuclear Test Ban treaty of 1963. Today, most tests are done underground to reduce the risk of radiation. There is also the nuclear ionizing radiation – the

²³ K. Ameriks & D.S., Clarke, (eds.) Immanuel Kant: *Groundwork of the Metaphysics of Morals* in Cambridge Texts in the History of Philosophy. (Cambridge University Press, United Kingdom, 2012), p. 10.

²⁴ J. Rifkin, An Examination of the Efforts of an Anti-Biotechnology Activist (1999 Third Year Paper) <http://nrs.harvard.edu/urn-3:HUL.IstRepos.8965540>. Visited 15th February, 2022.

²⁵ A. Asekhauno, W. Osemwegie Genetic Engineering, Artificial Intelligence, p. 184.

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penetrative ray emitted in a radioactive decay or process. This ionizing ray is fatal if it impinges on a living tissue of man, animal or plant.

Further Threat of Science and Technicization to Mankind

Pollution is one means of environmental degradation.

Pollution is the unrestrained and uncontrolled degradation of our environment through the injection into it of pollutants in excess of what can naturally be recycled, broken down, dispersed or stored in harmless form.²⁶

Environmental pollution is as old as humankind. However, in the recent years it is aggravated by scientific and technological advancements as evident in the production of more machines, weapons and automobiles. Environmental pollution occurs as a result of technological mismanagement and lack of control measure. Air pollution, water and noise pollution are the key indicators of an environment that has been continually polluted as a result of technology.

There are about 100 atmospheric (air) pollutants known. These include aerosols, fly ashes, smokes from de-carbonate elements, fumes, dust, mists, odors, soot, etc. In Nigeria for instance, the residents of River State have been combating for many years the black soot pollution as a result of incomplete combustion of fossil fuels, illegal crude oil operations and the destruction of products from illegal oil refineries. Besides the covering of every physical surface by black soot, a 2019 report on the analysis of River State hospitals showed that from 2014 – 2018; over 20,000 people received care for soot-related conditions, which include: respiratory, skin and reproductive disorders. The same report also revealed that the death rate from black soot-related health issues in River State Nigeria had risen to 25,000, including babies.²⁷ Recent statistics reveal that about 163 million tons of unwanted gases and tiny particles are dumped into the atmosphere every year and cars constitutes the greatest source of air pollution and dumping of gaseous and smoke wastes. Air pollution depletes the ozone layer faster than it could be naturally renewed. This occurs most especially with the explosion of nuclear bombs and the injection of some quantity of nitrogen oxide (NOX) into the air, which can

²⁶ J. Okogbuo, *Modern Science: Threshold and Philosophical problems*, pp. 254ff.

²⁷ T. Opeyemi, *Black Soot in River State: ‘Government Have Failed to Protect Citizens’*, NEWS Nigeria, December 22, 2021.

cause the thinning of the ozone layer.²⁸ The depletion of the ozone layer by harmful solar ultraviolet radiation reaches the earth, leading to dangerous ecological disruption. It can also be possible causes of increased number of diseases such as skin cancer, cataracts and depression of human immune system, reduction of crop yield, marine life and damage of property.²⁹

Nuclear plants cause water pollution and contaminate water bodies and affect organisms and plants in these water bodies and damage individual species as well as biological communities. These plants cause the rise of the normal temperature of the river or a portion of it, sometimes as high as 120°F. This creates an ecological disruption in the body of water affected; and consequently it affects most of the aquatic lives and source of livelihood. Some of the organic water pollutants include detergents, chloroforms, and food processing wastes, herbicides, insecticides, etc. Other inorganic pollutants are sulfur dioxide, ammonia, chemical wastes, fertilizers, etc. Oil spillage also constitutes a great damage to both sea lives and human life³⁰. These can be seen in damage it caused in the Niger Delta regions of Ogoni and Bayelsa State of Nigeria. Decades of oil spillage have made the region one of the most polluted places on Earth. Nigeria's National Oil Spill Detection and Response Agency (NOSDRA) recorded 639 oil spills in just the past two years, resulting in 28,003 barrels spewed into the environment, according to the agency's data. The consequences of these environmental catastrophes and the socioeconomic losses cannot be quantified. Most of the fishes and other aquatic living creatures have been killed, which has resulted to near zero economic activities in the affected areas. Right now, there is so much hunger and starvation in the land. Contaminations from oil spillage often cause liver or lungs poisoning, damage of kidneys and cause deaths. It causes breathing difficulties, increased blood pressures, heart rhythm changes, skin ulcer, stomach irritation, muscle weakness, changes in nerve reflexes, and brain damages among others. A study conducted confirms that oil spills have also

²⁸ The Effects of Nuclear War (A published project Report of the Office of Technology Assessment (OTA), Congress of the United States, Michigan: Gala Research Co., 1984. P.112

²⁹ J. Okogbuo, *Modern Science: Threshold & Philosophical problems*, p. 269

³⁰ Cf. Y.H., Okhumuode., Particle (Soot) Pollution Port Harcourt River State, Nigeria – Double Air Pollution Burden? Understanding and Tackling Potential Environmental Public Health Impacts. *Environments* 2018, 5, 2; doi:10.3390/environments 5010002, www.mdpi.com/journal/environments.

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claimed the lives of thousands of babies born to mothers who live in areas contaminated by such incidents³¹.

There is also the degradation of the earth's land surface through the excess accumulation of harmful objects and chemicals on it.³² The major concern here include: the wrong disposition of nuclear waste, and harmful chemical elements, as well as oil spillage (destroys vegetation and living organisms in the affected area), industrial waste, sewage waste, excavation and drilling, gas flaring, offal, mining and quarrying (causing landslide and earthquake), Many European countries have banned techno trash from landfills. These toxic materials have all kinds of bad effects including nausea, diarrhea, and even cancer.

Confronting Science and Technology with Personalistic Ethics

Boethius, in the light of Thomistic notion defined the human person is an individual substance of a rational nature.³³ This definition emphasizes the rational and ontological nature of the human person. These characters invest humans with dignity and respect which are intrinsic to them. The human dignity is not based on external appearances or recognitions. As a natural endowment, it is absolute and not conditional. The human person is a composite of the body and soul – a unitotality that abhors dualism. Thus the human life is a fundamental value, which requires great tutelage and responsibility. Kantian categorical imperative in corroboration to the personalistic ethics upholds that the human person should always be treated as an end and not just as means. This means that the human person must be understood, known, respected, defended and promoted always as an end. The centrality of the human person attests that man is the actor and the recipient of all human acts. Thus these characteristics of personalistic ethics act as guardrail in any action or treatment involving the human person.

From the perspective of personalistic ethics emerges the ethical impermissiveness of the manipulations of science and technology on human life and dignity. Personalistic ethics denounces with horror the military might which is measured in terms of its destructive capabilities. This is

³¹ Mongabay, Report: Niger Delta communities in 'great danger' as month-old oil spill continues, 6 December 2021.

³² J. Okogbuo, *Modern Science: Threshold & Philosophical problems*, p. 271.

³³ This definition is given in Boethius's *Liber de Persona et Duabus Naturis*, ch. 3.

counterproductive to the current “progress” which science and technology pretend to promote. Science and technology recklessly obstruct the natural human reproduction through the manufacturing of abortifacients, sterility and impotence inducing drugs, while favouring all sort of artificial reproductive technologies. Personalistic ethics condemns all these as they render mankind increasingly passive and dependent. The media through its subtle but incessant propaganda exploit consumers with deceits that have no historic precedence. According to Jacques Ellul, the greatest deceit of science and technology is that of perfecting mechanical techniques and imposing them in ploys that obviate human friction³⁴. Science and technology demand the anesthetizing and technicization (technologizing) of human sensibilities. This lures man to adapting to the all-important machine with which he is co-operating with ever-increasing efficiency. The fate of the modern man is being increased in an ever-broadening technological framework – a phenomenon which Ellul described as “technological anesthesia”. In this state, man would adjust to a mechanical world, but at the price of surrendering to conflict he needs for creative consciousness³⁵.

The man and woman of today must struggle with the technologized society which confronts them at every instance of life. Humanity must understand that every invention or technology is both an extension and a “self-amputation” of our physical bodies.³⁶ This goes to say that technological progress and anesthesia go hand in hand. In many cases, the effort to make life easier makes it even more difficult. Most often than not, new scientific and technological discoveries create new occasions for self-estrangement. They are shrouded with ethical inconsistencies. For instance, beyond chemical contraception are the side effects of marital break downs and abortions. Beyond prenatal diagnosis for eugenics are abortion and infanticide. Beyond artificial human fertilization is mechanical production of the human person, surrogacy, borrowed wombs/uterus and the callous destruction of the unused embryos. Increased reliance on automobile brings less reliance on and even less awareness of our own legs. Today, without the aid of computer, cell phone

³⁴ J. Ellul, *The Technological Society*. Transl. by J. Wilkinson (New York, Knopf), 1964, 414.

³⁵ J. Ellul, *The Technological Society*, in Demarco D., *The Anesthetic Society*, Christendom publications, Virginia, 1982, 11.

³⁶ M. McLuhan, *Understanding Media: The Extension of Man*. New York, McGraw-Hill, 1964, 51-56, in D. Demarco, *The Anesthetic Society*, 11.

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or calculator one cannot think well again, spell words nor add correctly. Every technology produces a counter effect inasmuch as it tends to numb man to the nature it extends.³⁷ Increase in technicization would inevitably be accompanied by a reduction in the use of our memories as well as their gradual impairment. In using technology to purify life of death, death wins more attention than it deserves. Human beings are now endangered species. In technicization man often becomes the slave of his own creation than the beneficiary which he intended to be. In this way he fails to see the positive elements of life which disappear in an unnoticeable obscurity of ethics and practice.

The predominance of technology creates the impression that it is now attempting to suppress or even replace nature or creating it anew. However, human beings are rooted in nature. The notion that technology could give us new identity, such that one is no longer rooted in nature contradicts an ineradicable feature of man's essential being. Martin Heidegger had earlier warned against this when he argued that the greatest issue that the modern man would face is that of "saving of man's essential nature."³⁸ Today technology has profoundly altered the way we understand our relationship with nature. The real relationship between man, nature and art has become disordered. The philosopher Aristotle maintained that man is rooted in nature, even though nature does not contain man. Man for him is free to expand through art what nature has left unfinished. According to Aristotle, "art imitates nature."³⁹ This implies that art completes, perfects and extends nature. Technology, in particular is the art of extending nature by applying scientific laws to practical purposes. For Aristotle, man is neither a copier who produces nothing new, nor a creator who produces what is new from nothing, but a maker whose "making" or "work" co-operates with the creation that already exists as nature. Consequently, we cannot make anything unless we understand nature and obey her laws. Today technology is regarded more and more as fundamental and originative while "Mother nature" is regarded as obsolete or rapidly receding into obsolescence. The inter-relationship between man, nature and art is that as long as art serves man by working in harmony with nature, his

³⁷ D. Demarco, *The Anesthetic Society*, 25.

³⁸ M. Heidegger, *Discourse on Thinking*. (New York, Harper & Row), 1966, 56

³⁹ Aristotle, *Exposition of the Posterior Analytics*, Prologue.

life continues to improve and continues to remain open to the infinite. Man's destiny is always to remain open to the transcendent. When art tries to emancipate itself from nature, it can provide man only some fixed and narrow image which inevitably immobilizes him.⁴⁰ It is always ethically absurd, no matter what the techniques, to use an instrument to occlude man's vision. When one comes to identify himself or his life in terms of mechanical extension, the machines can no longer serve man rather man serves it. In this way science and technology oppress man rather than rejuvenate man. Science and technology are fixed and determined, they are thus unable to offer man a sense of the transcendent that is vitally needed to nourish man's spiritual center. With such technocracy humanity and the human society become sick, neurotic and vague.

Conclusion: Science and Technology at the Service of Man

It is quite clear that science with technology is an attempt to conquer nature and use it for man's own good. It is also evident that the same nature is over exploited not only to the detriment of nature itself but also of the exploiter – Man. Nasir described the above situation thus; “there is everywhere the desire to conquer nature but in this process, the value of the conqueror himself, who is man, is destroyed and his very existence threatened”⁴¹.

We have attempted a review of techno-science, its proceeds and exploits, functions and ideals and the inadequacies. It is also clear that everything in existence has its own advantage as well as disadvantage. However, science or technology with pseudo rationality creates the illusion of a manageable world. The greatest moral danger here would be that since science and technology form part of the progress and aspirations of human future and the human society, the human person would become the fundamental victim of these illusions. The human being needs a technology that exalts his personal energy and imagination, and ennoble his personality. When it turns to deprive him of his fundamental right to work, and subjugates him as a mere instrument of work, it becomes an oppressive tool and a true enemy. The worker should not become a thing, an appendage to the machine. Thus, amidst the technological advancements of our time, the human being

⁴⁰ D. Demarco, *The Anesthetic Society*, 23.

⁴¹ H. Nasir, *Man and Nature*, London: Penguin Books, 1968, pg. 17.

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must be given his rightful place as a working being, and not be tooled by his own tools⁴².

Science and technology may serve the need of human life in countless invaluable ways, but it cannot replace human life with a synthetic or artificial version of its own. Any advancement in science and technology must take cognizance of the intrinsic attributes of the human life and dignity (which extends from conception to natural death). The integral development and advancement of the human person is what science claims to offer through technology. Unfortunately, some advancement in biotechnology and science infringe on his intrinsic dignity. This sad tendency ends up in the **«thingification»** and **«instrumentalization»** of man (making man a thing or a tool to his invention). Science and technology should rather add value to man's already exalted worth as a creature of God (endowed with intrinsic dignity) who is never a means but an end. This end echoes the purpose of his creation "to give glory to God" (Psalm 115:3). Modern man armed with this knowledge is challenged to humanize science and technology instead of allowing science through technology to **technicize** and **dehumanize** him.

The right attitude would be that science and technology serve man as an instrument, just as the finger is a suitable instrument for pointing at a thing. As long as science and technology are subordinate to man, the right means work for the right end and man is the beneficiary. In this regard Aristotle's imitative notion of art is held, rather than the fixation attention to technology, which only permits the means to usurp the end, and technology and science to rule man.

Man's destiny is to look beyond. Every new technology is outshined by the more glorious natural wonder it reveals. The universe is too rich and versatile to allow science and technology to be an end. Art imitate nature, but nature imitates the infinite.⁴³ The man and woman of today should avoid the illusions of the technicized and anesthetic society if we must achieve the authentic person and wholeness that is proper to our destiny as humans.

Any scientific or technical advancement that does not put the good and integral development of the human person first should be rejected. Science and technology must be at the service of man. Consequently, all scientific and

⁴² E.G. Ekwuru, Basic Introductory Themes and Issues in Philosophical Anthropology.

⁴³ D. Demarco, The Anesthetic Society, 27.

technical laws should defend, preserve and promote human life and dignity, its continued survival on the face of the earth and also better the quality of life of future generations and environments. Technical progress with controllable techno-constraints should be encouraged and opted for human existence

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