

# Some considerations regarding the trilemma of technological civilization: between tradition, conservatism and revolution or about Traditional Education vs. Digital education

Valentin - Stelian BĂDESCU,

*Lawyer in the Bucharest Bar and an associate scientific researcher of the Institute of Legal Research of the Romanian Academy*

[valentinbadescu@yahoo.com](mailto:valentinbadescu@yahoo.com)

Ruxandra Ioana BĂDESCU,

*Economist, doctoral student of the Doctoral School of Business Administration within the Academy of Economic Studies in Bucharest*

[ruxbadescu@gmail.com](mailto:ruxbadescu@gmail.com)

## Abstract

Traditional learning combined with digital learning is becoming more and more attractive. Thus, there is no sudden transition from traditional to digital, both bring added value if combined, and the change and transition to digital education only is easier to assimilate, especially by teachers, who have been educated and "trained" many years in the classic, traditional way. And the sudden transition to the digital environment can give rise to frustration, but especially to resistance to change. The blended approach of online and conventional education also provides human interaction with teachers being able to provide real-time feedback. Thus, time is saved and other costs are reduced, even eliminated. Now that options exist, it's up to students and teachers to decide which option to choose. In addition, the process of digitization of education is long-lasting. The only certainty being that we are only heading there, towards technology in all fields, this being the natural course of evolution, the only certainty of life remaining, of course, change. How is the educational system changing in the digital age? This is the theme of the present scientific research endeavor being inspired by the times in which we live.

**Keywords:** education, technological civilization, tradition, conservatism, digitization, social impact, digital age.

## 1. Argumentum and foreword

For our society, the year 2020 brought an unprecedented situation in a pandemic context never seen before by contemporaries. The theme of this scientific research endeavor is inspired by the time we live in, by the perception we have of the changes brought to society by man and the role that technology has in this context. Since the notion of "technology" plays an important role in this study, I will make a few clarifications. In the Little Academic Dictionary, edited by the Linguistics Institute of the Romanian Academy in 2010, there are four definitions for technology. Of these, the second definition covers the meaning we will consider next, namely: "Technology is the set of processes, methods, procedures, operations, etc. used for the purpose of obtaining a certain product" [1]. And right in the title I made a summary of what citizens read, hear and see who get information from the mainstream media, i.e. the mass media under the control of propaganda. You don't even need more to understand that people are treated like patients in a hospice who, after taking their dose of medicine, are deceived and lied to ensure the peace of the establishment. Here's why I believe the day Einstein feared has arrived. "I fear the day when technology

will be more important than human interaction. The world will have a generation of idiots". Modernity has undermined the prestige and objective status of virtues and morals, creating what C.S. Lewis calls "chestless men," men without the symbolic abode of courage, honor, and responsibility. To prove that reference to an absolute and moral norm constitutes objective, defining and universal facts for man, C.S. Lewis invokes great names of Greek, Roman, Jewish and Christian thought, such as Plato, Aristotle, Augustine, Thomas Aquinas, along with masters of Eastern thought, Confucius or Hindu sages. The assertion ranks among the most clairvoyant criticisms of postmodern man. Accustomed to consider truth and justice as subjective, interpretable matters, today's man has lost the essential criterion that can give him resistance in the face of tyranny and totalitarianism [2].

With this preamble, we can consider that the inhuman technicalization of life proposes benchmarks that highlight and analyze the way in which the current technological system rigorously and totalitarially organizes the spirit of the world, targeting us in an attachment to the worldly, in a dispersion towards the external, favoring absolutization the insignificant and transient ones. Overwhelmed by information flows, plugged in front of the screen, instrumentalizing different applications and numerical techniques, man lives a screened, mediated, artificial existence. Integrated into the technological gear, man diminishes his ability to be awake, his inner settlement in a state of wakefulness that would allow him to unify his soul powers. Gradually, the spirit of the technology system invades the human soul, technical logic is internalized, generating a certain state of mind, materialized through thought and behavioral patterns. As society becomes more and more technical, man, in order to survive, will have to become more and more like the machine. When man will live more in the artificial environment of technology than in the reality given by God, he will resemble the technological environment that configures his existence.

Dehumanization intensifies as man is valued and evaluated by technical criteria. Man's life, thinking, action, evaluated according to technical criteria, presuppose the encouragement of man to think, to work, to live like a machine. Thus, living thought, empathy, love, everything that gives specificity to the existence of concrete man is subjected to a deep process of alienation. In the technical society, the deep needs of man, what concerns his soul, his intrapersonal and interpersonal life are considered irrelevant. And yet, despite some shortcomings, I must highlight the positive role that the development of technology has had in the evolution of human society, considering here the relations between nature and man and between man and nature, about how man became a "zoon technologiko" , about civilization and technology, about the future of technological civilization. It is possible that, contrary to what some anti-technology currents want, man will continue to strengthen his control over the surrounding nature with the help of technology. Until where? As for me, 20 years ago, when I first started writing on the computer, I was excited by the possibility of moving a passage, a sentence, a paragraph, or even a single word from one place to another. Working on the text thus became faster, because if I decided that that content looked better elsewhere in the document, I didn't have to rewrite everything from the beginning: I simply moved the passage to another place. I often had to adjust the text a bit because all the references and conclusions no longer matched, but the relevant passage was now in the right place – and in less time than it would take to write the passage again. Today copy-paste, copying and pasting a text, are self-evident activities and we can no

longer imagine how letters or books were written in the old days without having these editing possibilities available. This is precisely why millions of people who create and process text work on the computer: it takes over part of our work! More recently, artificial intelligence has taken over even too much, it can create works of art, from literary texts to musical scores! How far will the massive transformation "progress"? For answer choices, we try the trilemma of technological civilization.

## **2. The trilemma of technological civilization: between tradition, conservatism and revolution**

The techno-editorial space does not allow me to review, in detail, the answer given to this question, but a brief excursion into the history of humanity in various places and times, would be useful to recall some stages of the evolution of the human species. This will allow us to highlight those characteristics of the species, which determined the evolution towards the current human society. The species was originally an "ordinary" one, that is, it evolved for a long time according to the laws of natural selection, from Australopithecus, to Homo Habilus, to Homo Erectus, to Cromagnon man and to Homo Sapiens. However, after the end of the last glaciation, about 11,700 years ago, something essential happened. In the Near East, a few people, probably women, discovered that it was possible to grow plants to secure food supplies. Humans found that they had the option of growing plants and then raising animals, instead of the natural options of gathering and hunting them respectively. It was the first step in the next period of development based on knowledge and technology, whereby we began to differentiate ourselves from natural biological systems. Our evolution has moved further and further away from the law of natural selection and has been driven more and more by technologies. Anticipating, the exit from the dominance of natural selection corresponds to the stage of the emergence of modern science and the industrial revolution. Once this first step was taken, man continued to demand from nature more than she naturally provided. The consequence was that, in order to satisfy his needs and desires, man began to modify the environment, both environmental and social. The process started with the first step continued without interruption, but slowly, until about 500 years ago. Then several processes of great importance took place in a small region of the globe, Europe: the Renaissance, the Enlightenment, the Scientific Revolution, the Industrial Revolution. On the scale of history, these processes unfolded rapidly, so that at the end of the 19th century Europe was so different from that of the Middle Ages that it was obvious that the change was fundamental [3]. The completion of the stages started with the first step was a great success for the human species: humanity no longer evolves according to the laws of natural selection: epidemics can be fought or even avoided; the effects of calamities can be predicted and countered. Unlike ordinary species, which develop those abilities that enable adaptation to the environment, the human species defines its needs and then modifies the environment to satisfy them. This is a fundamental characteristic of our species, existing permanently after the first step is taken. It is evident that a fundamental characteristic of man is the dissatisfaction with having only what can be obtained naturally from nature. We have always wanted to improve our everyday living. We didn't like living in caves; we have built homes, which have permanently changed their functionality, becoming now skyscrapers and smart buildings. We didn't like to continuously migrate, gathering and hunting, we created agriculture and raised cattle. Viruses and microbes have plagued us and decimated us, we created medicine and fought them. We have been

managing local ecological systems for millennia and regional systems for decades. Water management systems have reached huge dimensions, comparable to the size of some states (the Amu and Sâr-Daria basins, the Danube basin, the Great Lakes in North America). We ended up triggering certain atmospheric processes and lessening the effects of storms. In general, as far as technology allows, we have tried to modify nature for our benefit. And nowadays the level reached by technology has reached a stage where we have the possibility to manage the entire planet. Regarding the stage of the period we are living in, according to the opinion of Mr. Academician Mihail-Viorel Bădescu, there are several points of view, but two may be relevant for our object of scientific research. Thus, the first point of view belongs to The International Union of Geological Sciences and The International Commission on Stratigraphy. In July 2018, these scientific bodies presented the structure of the International Stratigraphic Chart. From the point of view of geologists we live in Meghalayan. This new geological age covers the last 4,200 years of Earth's history and is one of three new subdivisions of the Holocene epoch (which begins 11,700 years ago, at the end of the last ice age). The members of the Stratigraphy Commission appreciated the concordance and convergence between the stratigraphic data and the cultural evolution of humanity as extraordinary and sufficiently argued [4]. A second point of view considers that we are currently living in the Anthropocene [5], a recent period of time in which human activities have profoundly, and rather adversely, altered the Earth's environment and processes, including climate, and technology is seen as the main tool of these unwanted changes. The term has been appropriated by the conservation movement and the media. It is obvious that there is a significant difference between the two points of view. The first point of view captures the influence of changes in nature on the evolution of humanity, and the second point of view considers that only the negative influence of man on nature deserves to be highlighted. According to most historians of civilizations, we live in a time when technology has become a fundamental attribute of human society. We have entered the era of "technological civilization" and some researchers already believe that the first thing to be said about this civilization is its Kardashev index, the other aspects being secondary [6].

From the perspective of "technological civilization", each historical stage emphasized some ideas, the so-called values or categories, which were added to other values from previous historical eras, together constituting hard-to-shake bases, transmitted through tradition. Each category had its promoters and partisans, of whom some, a few, were creators and others were keepers of the idea, transmitting it from generation to generation. Thus, Greek Antiquity emphasized the categories of Good, True and Beautiful and philosophers, scientists and artists were, respectively, their keepers. Late Roman antiquity emphasized the category of law, defended by jurists, who turned customs into codes of law and enforced them for hundreds of years throughout the Empire. The much-disapproved Middle Ages emphasized the category of honor, with the system of oaths of faith, and this category was defended by a numerically reduced and enfeoffed aristocracy, practicing the judicial duel. What has the modern age brought new in terms of values? The modern era, in various interpretations, is defined in relation to the evolution of Western civilization, following the Middle Ages. Modernity is characterized by a series of changes of a new type, manifested in the acceleration of progress in all areas: politics, society, economy, trade, transport, communications, science, medicine, technology and culture. An original and unique

characteristic of modernity is the industrial revolution that began in the 18th century in England and the emergence of those technologies that later led to a mechanized and automated industry that gradually replaced manual labor. The industrial revolution emphasized the useful category, which is the good of the Stoics, with innovators as promoters and engineers and technologists being, in practice, its keepers. Industrial society, based on technology, was so successful that within a single century it spread to the East and now dominates the entire globe. The useful has joined the other traditional values, which it sometimes seems to subordinate, the old hierarchy between "episteme" and "techne", that is, between knowledge and interested knowledge, for the control of things, often reversing itself. The useful is at this moment the motto and objective of the activity of much larger groups of people than the traditional keepers [7].

From the point of view of disadvantages, technology has been trumpeted with extraordinary advantages that have always proved to be deceptive, i.e. with growth, progress, but also slippages to loss (see the paper economy promised by the promotion of computers or the compact disc when it replaced the vinyl disc and magnetic tape, etc.), in reality being dictated and interested only in profit and not in the benefit of all. Globalization and technology bring the news that nations will disappear and with them the borders and cultural differences. Let me remind here that before the existence of the states, there was globalization and disbandment on the earth, and when the states were invented, these were also the nations that invented and created democracy, not technology [8]. Technological advancement takes the credit that thanks to it we will win and that we will no longer have the problems created by the national state without realizing that we won all the rights of democracy in the last one hundred and fifty years of struggles and social upheavals. If we are not careful, some specialists warn us that with globalization we will also lose the piece of democracy that we still have since the appearance of corporations. We have to think that the vast majority of us do not earn our living from technology. Three quarters of the world's population does not live on technology. There are few who get rich from it and in their greed, those who do will trigger riots, revolutions and even a global war with the poor through this huge difference in earnings. The new global economy based on modern technology may be the end of us, even through the social impact caused by technology.

### **3. The social impact of technologies**

The first industrial revolution caused that, starting in 1825, in England the value of industrial production exceeded that of agriculture. At the same time, there is a radical change in the structure of the population's expenses in England: if at the beginning of the 19th century food expenses represented 90% of the total consumption expenses, in the middle of the century they represented only two thirds. In the same period, clothing expenses doubled. The structure of the population's expenses changed in favor of comfort goods [9]. Throughout history, some professions have disappeared or transformed into others. The trend will be accentuated in the next period as the speed of implementation of inventions and new technologies increases in everyday life. This should not scare us. We just have to predict, as early and as realistically as possible, these changes and prepare to face them by training the workforce in the school, but also by retraining it. Anyway, the professions that require creativity, cognitive skills, will be a human prerogative for a long time to come. The main technologies that will produce mutations in the structure of jobs

will be robots and artificial intelligence, and the most significant jobs where the new technologies will be found are those where demanding or repetitive physical work is performed, respectively data collection/processing. The first category includes jobs in the field of machine construction, metallurgy, mining, accommodation and food services, agriculture, product handling and distribution, transport, care and rehabilitation of the sick, etc. The second category includes jobs in the field of secretarial and archiving, accounting, banking and insurance, translation, text editing, etc.

In this sense, the evolution of the number of jobs in several professions in the period 1986-2016 in France is suggestive, where it is worth noting the increase in the number of motor vehicle drivers, considered until about 10 years ago the most difficult profession to automate and replace with a robot [10]. Now autonomous driving has become a reality, and in a short time the evolution of this profession will be similar to those presented previously. It has already entered our everyday life and we have become accustomed to ATMs, ticket machines at train stations or bus stations, vending machines for drinks or cigarettes, automatic check-in or passport control devices at airports, etc. Moreover, we started to get used to conversations with "robots" that respond to our request to obtain information from the field of banking, mobile telephony, transport services, etc. All these "machines" have taken over the activity of some people, performing it, many times, under more efficient conditions and parameters than the human factor. Artificial intelligence systems are capable of defeating champions of general culture contests or strategy games (chess or Go), or taking over the doctor's tasks in diagnosing diseases [11]. Moreover, they are able to understand not only human language, but also the emotional state and character of the interlocutor and formulate the appropriate answers. The implications of these systems will be observable in the next few decades in all fields of activity: philology (automatic translations, analysis and writing of texts, etc.), history (analysis, correlation and synthesis of information from archives, analysis of artifacts), art (analysis through imaging of paintings, digital art, music composition), psychology/psychiatry (diagnosis and treatment of phobias or mental illnesses through virtual reality techniques), etc. Three examples are suggestive: one from the field of arts and two from the field of literature. Both the music field and the literature field are fields with a very high degree of creativity. The EMI program (Experiments in Musical Intelligence), and more recently Annie, created by David Cope from the University of California, compose classical music, and not only, of such perfection that even the discerning public cannot notice the difference between a composition created by a computer and of a Bach chorale or a Beethoven symphony.

The second example refers to the forecasts regarding the evolution of artificial intelligence programs in the field of composing literary works: it is estimated that by the year 2024 the programs for automatic translation of texts will be functional; until 2026, essay writing programs for didactic purposes, usable by pupils and students, will be available; after 2050, artificial intelligence programs will write novels [12].

In 2018, a novel composed by an artificial intelligence program came close to winning a literary prize in Japan [13]. The third example is from the field of electronic devices for reading books. The Amazon company is going to equip its Kindle device with biometric and facial recognition sensors, as well as with an artificial intelligence program, which will

allow the evaluation of the impact of each phrase or passage of the book on the reader and the evaluation of its degree of satisfaction. As a result, the artificial intelligence system will suggest books that it knows will give you satisfaction or interest. The impact of technologies on the exact sciences will be direct, through the development of more and more complex and performing computing or experimental equipment. But the most spectacular and the most accessible field, because it affects us all from the point of view of the quality of life, is that of medicine. New fields of engineering have developed, such as medical engineering, which trains engineers to design, manufacture and maintain medical equipment. They have designed and manufactured increasingly high-performing equipment, based on new physical principles, the most relevant being those in the field of imaging and surgical robotics. New imaging equipment has completely changed the way of investigating the human body in the last decades, significantly improving the rate and time of detection of serious diseases. Dental implants, currently used today, would be impossible to achieve without the assistance of imaging. Equally spectacular are the applications of robots in surgery, which have gone through the phases from concept to research, realization and current use, at a rate of several decades. In 1984, the first surgical intervention by a robot was performed. Today, da Vinci-type robots are already currently used in multiple types of operations. Materials engineering researchers have developed new biocompatible materials, which made it possible to create bone implants, tissues or even artificial organs [14].

The fascinating achievements of modern technology and their social implications made great thinkers focus their attention on this phenomenon, a new direction of research in philosophy being developed: the philosophy of technology. Famous philosophers and sociologists such as Ortega Y Gasset, Martin Heidegger, Jacques Ellul, Hannah Arendt focused on the anthropological, ethical, taxonomic aspects of technology, as well as on the processes of innovation and evolution of technologies. An important role was played by the analysis of the social impact of the development of new technologies and the mutations it produces in the collective mind. We will mention here only three of the famous studies that addressed this subject: Heidegger's *Die Frage nach der Technik* (The Question Regarding Technique), published in 1954 [15]; Arendt's *The Human Condition*, published in 1958 [16]. and Ellul's *The Technological Society*, published in English translation in 1964 [17]. Ellul points out that the technological system proliferates, restricting human freedom, not necessarily as a result of a Machiavellian plan. He speaks of the spontaneous convergence of numerous techniques, of man's adherence to them, so that the integration of technical models into a comprehensive technological system converts life into a technicized existence. This technicized way does not admit the reference to the transcendent, the man being contained in a technological flow, sequentialized in himself, in multiple sequences from which the system integrates what is convenient. Ellul meets deeply with the approach of Ioan Petru Culianu who notes that "technology represents a democratized magic." Ell, like Mircea Eliade, shows that "in the technical society myths are hijacked." The myths of the traditional world are replaced by the new myths of the technological society [18].

Later, especially in the last 20 years, the number of publications in this field increased significantly. Relevant in this sense are: *Thinking about technology*, by Pitt, published in

2000 [19]. and Philosophy of Technology and Engineering Sciences, a voluminous treatise edited by Meijers and published in 2009, representing the 9th volume of the famous Handbook of Philosophy of Science.[20] The launch at the Paris Motor Show on October 5, 1955 of the avant-garde car model DS 19 by the Citroën company fascinated the French thinker Roland Barthes to such an extent that he dedicated to it an essay entitled "La nouvelle Citroën", included in the volume of essays Mythologies. It is one of the most beautiful essays dedicated to an achievement of modern technology. Suggestive, in this sense, is the opening sentence: "In my opinion, today, the automobile is the fairly exact equivalent of the great Gothic cathedrals: that is, a great creation of the era, conceived with passion by some unknown artists, consumed as an image by a whole people, who, through it, bring a completely magical object closer to themselves."

The changes produced by the development of digital technologies have made psychologists, sociologists and educators seek to explain how the new generations differ from those educated and trained before the appearance of these technologies. Thus, Mark Prensky introduced in 2001, in his famous article Digital Natives, Digital Immigrants [21], the term "Digital native". He defined digital natives as young people born in the last 20-30 years and who grew up with computers, mobile phones and the Internet. Those who were born before this period, but who adapted these new technologies, Prensky called "Digital immigrants". Later [22], he introduced a new concept "Digital wisdom" which represents the ability of a person to use new technologies in order to improve his cognitive performance, not only to understand them. Just as electricity changed our lives 100 years ago, the same will happen in a few years with artificial intelligence. A large part of the decisions in everyday and professional life will be made by systems that incorporate artificial intelligence. Is it good, is it bad? The future will give us the answer to this question.

The other side of the development of technologies is their negative effects. We will mention some of them: a human dependence on technology (mobile phone, computer, Artificial Intelligence programs, etc.), which leads to the loss of social skills; their destructive use (for example of military technologies by terrorists); the use of advanced technologies to manipulate public opinion (for example, the vaccination manipulation campaign or the manipulation campaigns in India, which led to lynching, etc.); the impact on the environment (global warming, increase in CO2 content, technological waste - radioactive or polluting); an upheaval on the labor market, etc [23]. Anyway, the development of technologies has two faces: one angelic and the other evil. One that will lead us to the condition of Gods and the other that will lead us to Hell. Man will have to choose the path he will follow. From this point of view, we must be optimistic that he will choose the right path whose evolution we are deciphering.

#### **4. Developments and trends in the field of technologies**

Next we will refer to the role that technology will play in the coming times. We will see that there are different views on this and present the main options that human society may have for the future. First, some preparatory comments. Throughout its history humanity has lived under the threat of disasters. Any major natural event (flood, earthquake, fire, epidemics) decimates the population. For mankind, nature did not appear as a friendly



environment to be preserved, as long as it was also a source of disasters. Only when nature began to be controlled did the disastrous effects diminish or cease. In recent decades, humanity has brought changes to the environment on a large surface of the globe. Will this increase in humanity's impact on nature continue? To give an answer, it is not enough to call on science. We must also appeal to morals and ethics. In contemporary society, several ethical principles of behavior in relation to the environment have been proposed, and some of them will be briefly recalled. An ethical principle could be the traditional one, namely: in the actions concerning the environment, we must consider the benefit of humanity. Other principles often taken into account in the public space are: conservation of biodiversity, protection of endangered species and nature conservation. There are, of course, other principles, but it is obvious that not all principles are independent or compatible with each other. How humanity chooses between these principles, however, depends on ideologies, which also contain sentimental, non-rational or transgression-based aspects. We will briefly present the most significant ideologies that refer to technology.

One of the ideologies, which can be classified as anti-technological, believes that by using technologies we have moved away from the way of life of the past, and therefore the call to technology must be reduced in order to return to that way of life. An eminent proponent of renunciation of technology was Martin Heidegger, considered to be one of the most influential philosophers of the 20th century. In a 1954 essay, "The Question of Technology" he condemned the view that nature is a mere resource for human consumption saying that the air is not made for nitrogen to be extracted from it, the earth is not made to be a source of deposits. He condemned hydroelectric dams for storing energy that would otherwise circulate freely. Also, referring to anthropometric measurements, which show that in the Holocene the cranial capacity of the species decreased compared to the Pleistocene, by about 10% in men and 20% in women, important researchers believe that the human species has regressed and, as a result, advocates a return to the ancestral way of life, characterized by living in groups of hunters and gatherers, having a maximum of 9-12 individuals. For this, aggressive anticipatory policies of technologization, population reduction and deliberate return of agricultural land to the undeveloped environmental fund are suggested. This ideology, in fact, proposes a fundamental change in the attitude of humanity for millennia, which has constantly tried to get out from under the tutelage of nature, characterized by indifference towards man and supplier of unpleasant surprises and disasters: hurricanes, floods, volcanism, plagues, earthquakes. Indeed, our ancestors did not adopt the principle of "Let nature take its course", because if they had adopted it few of us would still be alive today [24].

A second ideology, part of the moderate stream of conservationism, aims to maintain the relationship between humanity and nature as it is today. Adherents of this ideology do not exclude technology. The papal encyclical *Laudato si*, published in May 2015 and considered to be the first papal ecological manifesto in history, is part of the expressions of this ideology. The following passage is edifying: "If it is true that sometimes we Christians have interpreted the Scriptures only badly, we must today strongly reject that, from the fact of being created in the image of God and with the mission to dominate the earth, it follows for us an absolute dominion over other creatures. We thus appreciate that the Bible does not give place to a despotic anthropocentrism that would be disinterested in other creatures"

(Laudato si, §67-68). The passage is considered by some as a major change in attitude of the Catholic Church, because it proposes a profoundly different understanding from the traditional one of the founding divine commandment: "Let us make man in Our image and likeness, that they may rule over the fish of the sea, the birds of the air , the domestic animals, all the creatures that creep on the earth and all the earth" (Genesis, I, 26).

A third ideology is a continuation of the tradition, believing that humanity's problems can be solved by increasing control over nature. The difference from previous stages is that in these times, due to the level of technology reached, the scale of the projects and implicitly the control of nature begin to extend to the planetary level. Adherents of this ideology believe that, regardless of the principle adopted, technologies will be used to achieve the proposed objectives, and what will result at the global level will be a division of the Earth into areas where there will be mixtures of varying degrees, between things called "human" and things called "natural". Which way will humanity go in the future? This depends on how these three ideologies, or any other, will stand the practical test, and, in a predominantly democratic society, will be accepted and appropriated by the majority of the population, including the accession of women. Politicians, those who are responsible for the management of states and interstate bodies, are not strangers to these ideological currents and belong to the category of people with well-defined personal opinions, which is mandatory for the activity they carry out. However, when a politician has to decide on some practical issues, his freedom of choice is limited and the force of circumstances may lead him to choose options that are not in agreement with his preferred ideology [25].

The practical application of principles, whatever they may be, encounters difficulties, regardless of ideology. At this stage of humanity's evolution, major difficulties are caused directly or indirectly by the numerical growth of the population. It is known that the impact of a society on the environment is proportional to the size of the population, the demand for resources per person and the technological factor (ie the technical means and energy resources available to the society). The current situation is characterized by the increase in the exploitation of resources of all types (water and classic fuels, mainly), and these resources being limited, by the expansion of prospecting and exploitation in new areas. Also, population growth, which continues although at a lower rate, requires the increase, at certain time intervals, under the conditions of the same available land area, of the capacities to provide food, water, housing stock, transport, of waste disposal and storage facilities, energy production facilities and associated infrastructures. The need for continued environmental modification therefore appears as one of the inevitable consequences of population growth and the search for new resources. The far-reaching problems humanity will face in the future, characterized by increasingly severe constraints, will also require far-reaching technological solutions. The multitude of such projects, leading to the modification of the terrestrial environment on a regional, continental or global scale, received the generic name of geoengineering. The current technological capacity of mankind allows the approach of such projects and under the current conditions and constraints avoiding the option based on geoengineering seems impossible.

Recently, several trends can be highlighted in the field of technologies. And we will insist only on three areas: autonomous vehicles; advanced robots; processing technologies by

adding material. If a few years ago the field of autonomous vehicles was still a vanguard field in research (Google announced the creation of the first autonomous car in 2010), they have become a reality before our eyes. Self-driving cars are already on public roads, in testing mode, both in the United States and in Germany. By developing and increasing the robustness of M2M (Machine-to-Machine) communication systems between physical entities, applications in the industrial field of autonomous vehicles have become more and more present, having an important role in logistics from processing and assembly halls, from warehouses parts etc. The transition to a new level of communication between the human subject and the physical entity of H2M (Human-to-Machine) or more recently B2V (Brain-to-Vehicle) has already made it possible to realize a dream of to man, which until a few years ago was still in the realm of science-fiction literature: the driving of the automobile by the power of thought! The Nissan company presented this year the new concept car, IMx, driven by commands given directly by the brain to the car's driving system. A source of pride for us, as Romanians, is the fact that the director coordinating the mentioned project is a young Romanian, with a not-so-Romanian name: Gheorghe. The medical applications of this way of Brain-Machine communication, through the creation of bionic limbs, have a particularly great impact for the social integration of disabled people with paralysis or limb amputations.

Advanced robots, equipped with artificial intelligence systems and high-performance sensors, are able to communicate with each other, but also with the human operator or with other equipment in the production process, to perform complex tasks, to adapt to unforeseen situations, to understand the environment in which they act. The names of some humanoid robots, such as ASIMO built by Honda, Sophia built by Hanson Robotics or Robina built by Toyota, are familiar to us.[26] They have the ability to dialogue with man, to understand his gestures and emotions. The robots used in the industry are capable of performing fast, complex and precise actions, such as those of assembling some car components in areas that are hard to reach for the human operator. Or, more, to cooperate with each other in order to achieve new, unscheduled tasks [27]. A new field of robotics, called Cobotics, was thus developed. The BMW company in Munich is already testing such robotic manufacturing cells, used in the welding technology of automobile structures. It is possible to collaborate between the robots of the cell in the sense of the possibility of self-reconfiguration of work sequences, so that they automatically adapt to a new configuration of the car structure, without the need to reprogram each individual robot.

Among the advanced technologies, developed in recent years, that of processing technologies by adding material (Additive Manufacturing) is the one that best meets the requirements of the fourth industrial revolution. Additive Manufacturing technologies represent a series of technologies characterized by the fact that they use a virtual 3D model of the part, which they transform into a physical model through material addition processes. They appeared worldwide in the mid-80s, under the name of Rapid Prototyping technologies and have developed extremely quickly in the last three decades, bringing added value and complementarity to classic technologies. They revolutionized the field of manufacturing technologies and led to the introduction, at the beginning of the 2010s, of a new paradigm in this field, namely Cloud Manufacturing (by analogy with Cloud Computing). Additive Manufacturing technologies have applications in the automotive,

aerospace, medical, jewelry, footwear, architecture, construction, etc. industries. One of the recent applications of additive manufacturing technologies is the manufacture of a car at the International Manufacturing Technology Show in Detroit, MI, USA. Workers at Local Motors in Phoenix, Texas, took 44 hours to 3D print the car's components, one day for mechanical finishing and two days to assemble other components such as the engine, gearbox, electronics and wheels [28].

What will the future look like? What will be the next step? When and what will the next revolution consist of? "It's difficult to make predictions, especially about the future." So goes an old Danish proverb. But that doesn't stop people from always trying - maybe, just maybe, the adage will be proven wrong in the end. In my articles I have discussed various predictions. Each time, I hoped that article explained well enough why it is difficult to make predictions, especially about the future of the tech world. But, it seems, some people like to build and others to constantly read all kinds of scenarios: alarmist, pessimistic, optimistic, apocalyptic, but the future also includes unpredictable, unforeseen, unanticipated aspects. It is good to leave room for the indeterminate, the unknown, the miracle. Perhaps this is also the existential beauty, the discovery, our moving forward. It does not bring the year what the clock brings. Absolute, mechanical predictability would turn us into non-humans, and the world would become a planned engineering, a monotonous, flat machine. Not all predictions come true and not all are beneficial. Let's not forget that the Delphic oracle also predicted or induced things inconsistent with the natural course of the world. We don't need such "predictors". Education would also have the task of preparing us to take on new challenges and experiences, unimagined, surprising. Not everything that appears on the news is to be rejected. Chronological continuity – individual, human – also happens due to the permanence, depth, unfathomability of unknown faces brought by the future. And yet, according to the opinion of Mr. Academician Dorel Banabic, the next industrial revolution will take place when the machines (tools) will reproduce (multiply) themselves: they will think, design and realize by themselves the means they need to fulfill the tasks given by the human subject. How far away is this moment? Hard to say. Foreshadowings in this sense are already made: there are already computer programs that "write" programs in turn. Taking into account the fact that the speed of implementing a new invention in everyday life is ever greater, the moment of the appearance of the next revolution can be estimated at several decades. If we look at the history of technologies from the point of view of their adaptation to the consumer's requirements, we can periodize it in the following four stages, which generally overlap the four industrial revolutions.

The period before the first industrial revolution (that of artisanal production) is characterized by the fact that each product was designed and made for a specific customer (shoes, clothes, etc.). The industrial revolution of the 18th and 19th centuries led to an increase in productivity and the volume of production by product variant, which caused, at the beginning of the 20th century, to move to another paradigm, that of mass production (introduced by Ford in the manufacture of the Ford T automobile model). At this stage, a limited number of products are manufactured, these being made in a very large number, assuming that there will be enough buyers for them. The year 1955 is considered to be characteristic for mass production, being the year with the highest volume of production

for a certain product variant. Starting this year, at the turning point, the variety of products increases, and the number of products per variant begins to decrease. The year 1969 is the year of the transition to a new stage, that of mass customization, in which the customer selects the desired product, from a list of options, before its realization (a classic example is the choice of the car configuration by the customer based on a list of variants and then launching it into production). The fourth technological stage is that of personalized production, which begins in the first decade of the 21st century. During this period, the product options are chosen by the customer, bought from the manufacturer and then made with advanced processing systems. From the above it follows that technologies have gone through a cyclical development, from personalized artisanal production (oriented to the individual), to mass production (oriented to the product), then to the personalized mass production (oriented to consumer groups) and returning to personalized production (oriented to the individual consumer). From this point of view, the next industrial revolution will appear when each consumer will produce the goods he needs by himself, in a reasonable time, using Additive Manufacturing type technologies and the necessary programs for this, downloaded from the Internet (Cloud ). In this way, the cycle is completely closed, returning to the type of production in the primitive commune, in which each individual produced his own necessary goods [29]. Until then, let's analyze a new situation often encountered in today's society, the "vulnerability syndrome" of the "happy slaves" that hides unsuspected dangers.

##### **5. "The Vulnerability Syndrome of Happy Slaves" or about "Digital Dementia"**

At the beginning of the 21st century, the Westerner feels more and more "vulnerable". Panic, insecurity, social apathy, risk avoidance, accompanied by drastic security measures have replaced the daring and heroic spirit, political activism, the desire to experiment and overcome the limits. A new cultural paradigm around the concept of "vulnerability" is being born before our eyes. Everything has become subordinate to the notion of "safety", safety in a narrow, purely technical sense. The perception of reality through the glasses of vulnerability is a cultural phenomenon, closely related to the status of the individual in the era of hyperglobalization and institutionalized postmodernity.[30] Delighted with himself and his aseptic world, postmodern man remains a slave to a comfort mentality. The search at any cost for the "comfortable life" has turned into an undisputed personal and collective ideal; comfort is the new religion, promoted by technologism, globalism and mass consumerism. Lacking the comfort, the mysticism and the social imaginary that it implies, the postmodern man would be gripped by a terrible panic; face to face with reality and his own conscience, he would feel empty and helpless. A source of immediate satisfaction, comfort dispels his fears, protects him from unpleasant confrontations. It turns him into a happy slave. The title was inspired by Huxley, the great British writer and intellectual, who in the 30s understood that the manipulation of the human being is not only done through the instrument of fear, but also through that of comfort. The communist bracket is over, but there is a vast chapter ahead in which people will imagine that they are free without being. Ovidiu Hurduzeu proves to us that there is no freedom where man has forgotten his divine inner tension. A lucid opinion, against manipulation [31] . But much more serious is the harmful effect of technology on the human brain, causing "digital dementia" as Manfred Spitzer researched and called it in his well-known work [32].

“Dementia is a mental decline. Like any descent, it takes longer if you start from a higher height. In turn, this height or functional capacity of the mind depends, as with muscles, on training. Mental training – learning – happens automatically, like muscles, with mental and physical effort. We make mental effort when we actively interact with the world.” During learning, the synapses, i.e. the connections between nerve cells, change, and the brain's efficiency increases. Moreover, in the hippocampus, responsible for data storage, new nerve cells are formed, which remain alive only if they are intensely requested. Learning uses not only the neural hardware already in place, but also new neurons, which it keeps alive. One thing is clear: our mental capacity depends on how much mental effort we put in especially in the case of young people in their formative period. In the unanimous opinion of doctors, education is the most important factor for a person's health. This is true for both mental and physical health. And because mental health also depends on physical health, education has a double effect. Even more: education frees us from many constraints, because those who are educated can take a critical position towards themselves and the environment, without living at the will of others and chance. All this reduces stress, which destroys nerve cells. Today there is a lot of talk about continuous, lifelong learning. But it is often overlooked that its foundations are laid by good education in childhood and youth, as will be seen a little later. "Is Google fooling us?" - this is the title of a media criticism essay by the American internet expert and publicist Nicholas Carr [33]. When dealing with digital environments and the potential dangers they present, we must turn our attention not only to Google; nor can it simply be stupidity. Modern brain research shows that the widespread use of digital media is a serious cause for concern. Our brains are in a continuous process of change, from which it necessarily follows that the daily use of digital media cannot fail to have effects on us, the users. Digital media – computers, smart phones, game consoles and last but not least the television – are changing our lives [34]. In this context, more than alarming, even gloomy, the paradigm "traditional education vs. digital education" [35].

## **6. Traditional education vs. Digital education or School: copy-paste instead of writing and reading?**

### ***6.1. European and national context***

As of March 2020, the COVID-19 crisis has caused education and training institutions in Europe to close their doors and quickly switch to distance/online learning. In a matter of weeks, the educational landscape in Europe and around the world has fundamentally changed. Teachers, students and their families quickly adapted and continued to learn, showing determination and perseverance. The COVID-19 pandemic has raised awareness of significant gaps and deficiencies in digital skills, connectivity and the use of technology in education. Furthermore, according to the latest Digital Economy and Society Index, 42% of Europeans lack basic digital skills and the European labor market faces a significant shortage of digital experts. Moreover, the COVID-19 crisis has drawn attention to both the opportunities and risks of online life and the need for a better and safer digital environment for all, especially young people under the age of 18. The adaptation of education and training systems to the digital age has become a topic of major interest on the European agenda, an aspect reflected in the following initiatives: the launch on July 1, 2020, by the European Commission of the new European Competence Agenda for competitiveness, social equity and resilience, which includes the following objectives:

- Strengthening sustainable competitiveness and ensuring social equity;
- Increasing social resilience and promoting lifelong learning;
- Training skills for a job and resilience of the economy.

At its core, this initiative focuses on skills and vocational education, proposing a set of 12 EU actions, which sets ambitious EU-wide quantitative targets and outlines how the EU will support investment in skills. Thus, a Recommendation of the Council on education and vocational training for competitiveness, social equity and resilience that emphasizes the training of skills to achieve ecological and digital transitions, while ensuring inclusion and a set of indicators for adult learning until 2025 when 230 million of adults in the EU population should have at least basic digital skills.

The launch, on 30 September 2020, by the European Commission of the new Digital Education Action Plan, called "Resetting Education and Training for the Digital Age (2021-2027)" contained and complemented the first Digital Education Action Plan, which it was adopted in January 2018, the revised form forming part of the European Education Area vision. First, between June and September 2020, the European Commission carried out an extensive public consultation process for the revision of the action plan for digital education. In essence, the new Digital Education Action Plan is a call for closer cooperation between EU Member States so that education and training systems become fit for the digital age, given the impact of digital transformation on societies, the labor market and of its future, as well as on education and training systems. From this perspective, the digital transformation in education is driven by advances in connectivity, the widespread use of digital devices and applications, the need for individual flexibility and the growing demand for digital skills. At the same time, it is a call to action for closer cooperation at the European level, to draw conclusions following the crisis caused by the COVID-19 pandemic, a crisis during which technology is used at the highest level in the field of education and training, respectively for adapting education and training systems to the digital age. From a structural perspective, the new Action Plan for Digital Education includes the recommendations formulated on the basis of extensive consultations with stakeholders and includes two strategic priorities: the development of a high-quality digital educational ecosystem and the strengthening of digital skills.

The initiative aims to strengthen education and training systems following the crisis caused by the coronavirus, simultaneously with the EU's recovery efforts, based on the transition to a green and digital Europe. In essence, the creation of the European Education Space falls within the scope of the objectives set by the new European Competence Agenda for sustainable competitiveness, social equity and resilience and completes the panorama of actions following the strategic priorities in the new Digital Education Action Plan, as it aims at the following directions of action : basic and transversal skills training, gender inclusion and equality, ecological and digital transitions, teacher training, higher education, strengthening international cooperation in education and training, including by unlocking the potential for cooperation in the vocational and technical education sector. Similar to the member states, and in Romania, starting from March 2020, the "COVID-19" crisis has reconfigured educational practices from "face-to-face" interaction to the online environment. This challenge highlighted the role of digital education as a key objective for

quality, accessible and inclusive teaching-learning-assessment, as well as the need for a strategic approach to lifelong digital skills acquisition for all actors involved. During this period, "teaching-learning" moved predominantly to the online environment, and the challenges faced by schools in Romania were related to the lack of predictability in a heterogeneous school network, with a strong digital gap between educational units combined with insufficiently developed digital skills for the effective organization of the didactic process in the online environment due to limited access to technology and low internet connectivity. At the same time, the reduced possibilities of families to support the beneficiaries of education, the children, for participating in online lessons also had a negative influence.

In an increasingly turbulent and divided world, concerns about children's education have intensified. Both in Romania and in other countries, the question is being asked more and more often: "for what future are we educating our children?" For contemporaries, the answer to this question should be clearer from a balanced perspective on technology seen in the context of our days, but also highlighting its risks. Let us, therefore, avoid technophobia, stepping with patience and courage towards tomorrow in the light of our Lazarist and Haretian traditions. Thus, we can raise education to the level of art, later gaining gratitude from the children, but also intercession for our nation's own future, combining digital with traditional education. Now that most of the opinions found on educational sites suggest that digital education is gaining more and more ground and, in a way, the traditional school is starting to lose ground. We can even read predictions of educational centers that, in their current form, will disappear and give way to online education. But let's debate this topic a little more starting from the question of digital die-hards: "Is traditional education enough?" Rarely do we come across someone who keeps their kids out of school and turns to online education only. Anyone who does so is now considered insane and will receive plenty of free advice and counter-arguments. At this point, most people believe that traditional schools are the best. But is it enough? Do children still learn with the same love and interest as 10 years ago, for example? Today's generation is much more active, more curious and more eager for fast and on-topic information, and the traditional school is no longer enough. And this is where technology and its advantages come into play, including in the field of education. In the continuation of this option, it is stated that online education has its charm, giving as arguments the fact that it is more advanced from a technological point of view, therefore it has a special charm. Online education is ideal for making your children thrive in their field of interest and prepare for the jobs they will have when they finish school, always being updated with the latest advances in science, technology, medicine, art, culture, travel, transportation and other fields. Digital education goes beyond classical teaching methods, which no longer keep up with the needs of today's students. It is more flexible and suits the specific requirements that children have. Why? Because children always want to know more, always something new to further stimulate their creativity and critical thinking.

Today's children want to know how to do practical things, and not everything can be explained by current textbooks. Of course, apart from online courses, we can look to improve our knowledge through Google, Wikipedia and YouTube – which contain the latest information about science, people, technological advances and discoveries. Most



online sites are updated regularly and offer new insights. Something that classic textbooks cannot do so actively. Then, is digital education good for our children? How do we figure it out? Here are some factors to consider:

1. Flexibility. Digital education is very flexible. For example, if you have to stay home because you're sick, you don't miss school, you do your homework online, and this means you don't have to catch up on what your classmates did in class. But if you want to become more organized, then you need to study according to a well-established schedule and give up a lot of free time. In this case, studying at school is the most suitable.
2. Costs. Traditional education often has additional costs, including dorm or rent fees, food, and textbooks. In the case of digital education, the courses are done online, and those who create these courses use professional software equipment, which you have access to at no or very low cost. Online courses also come in video form, with picture and sound quality as good as the real thing. These video lessons are accessible anytime, anywhere. However, traditional education, although expensive in many cases, also has its advantages, such as access to vast libraries and direct contact with teachers and peers.
3. Social interaction. If we want children who can build relationships, meet people, enjoy student life, participate in trips and cultural programs – we can choose the conventional school. Online education is mostly about video-based learning and online mentoring – where personal contact and face-to-face interactions are missing and if you are more than just a geek, love gadgets and keep up with trends in technology – learning digital is the right option. If you want to have an edge over other students and improve your skills for a successful career in the future, then digital education can be an option. If you want to learn in a slower, conservative way, sometimes without a solid foundation for the real world beyond school, and have a slow path to your development, then traditional education is another option. Between these two - traditional and digital - the most suitable approach? Our answer is combined education because if we look at the works of great artists, be they painters, sculptors, architects or photographers, we notice that many of them are based on the golden rule.

According to it, "for a whole divided into unequal parts to appear beautiful, there must be the same ratio between the small part and the large part as between the large part and the whole." According to Rudolf Arnheim, "this ratio is considered particularly satisfying because of the way it combines unity with dynamic variety. The whole and the parts are perfectly proportioned, so that the whole prevails without being threatened by a split, and the parts at the same time retain a certain autonomy". The golden ratio is an irrational number, 1.618033..., which can be defined in different ways, the most important mathematical concept associated with the golden rule being the Fibonacci sequence, a sequence of numbers in which each is obtained from the sum of the two before it: 0,1,1,2,3,5,8,13,21,34,55 etc. Dividing any number by its predecessor roughly yields the golden number. These values have less practical importance, no one can measure exactly when creating a work of art, but they show that there is a close connection between mathematics and art. The first to use it were the Egyptians, most of the pyramids being built with the golden number in mind. The Greeks were the ones who named it as such,

using it both in architecture and painting, sculpture. Moreover, he is also noted with the Greek letter "φ", from the Greek sculptor Phidias who built the Parthenon starting from the golden ratio. In painting it was used mostly in the Renaissance, probably the most discussed use of this concept being in Leonardo da Vinci's painting, "Mona Lisa". The golden number is not only present in art, but especially in nature. The human face is based on this principle.

So traditional learning combined with digital learning is becoming more and more attractive. Thus, there is no sudden transition from traditional to digital, both bring added value if combined, and the change and transition to digital education only is easier to assimilate, especially by teachers, who have been educated and "trained" many years in the classic, traditional way. And the sudden transition to the digital environment can give rise to frustration, but especially to resistance to change. The blended approach of online and conventional education provides, say, human interaction is done a little once a week, and assignments and projects are usually online. Also, if you're working on a project involving multiple people, all participants can work from home at their own pace on the same document, with each person having access to the changes made by others, and teachers being able to provide real-time feedback. Thus, a lot of time is saved and other costs are reduced. Now that options exist, it's up to students and teachers to decide which option to choose. In addition, the process of digitization of education is long-lasting. The only certainty being that we are only heading there, towards technology in all fields, this being the natural course of evolution, the only certainty of life remaining change. How is the educational system changing in the digital age? Education experts see the potential behind the electronic devices that most people are addicted to today. If in recent years electronic books have gained ground in front of classic ones, education can reach a higher level, adapted to the requirements and habits of the generation raised in the digital age. The problem that can arise in this direction is that teachers are used to classical teaching methods and, even if they use a laptop, a tablet or a mobile phone, they cannot so easily get rid of the style they have become accustomed to. Today's societies in Europe and around the world are strongly shaped by widespread access to the Internet, which makes it possible for citizens not only to have access to an overwhelming and sometimes confusing volume of information, but also to connect and combine it, with institutions public and civil society stakeholders in different ways in a digital world. Digital transformation is a reality for the whole society, but it comes with a series of challenging situations for all environments. Undoubtedly, it is the students who have taken up and integrated technology as a way of life.

Moreover, the evolution of the teaching tools used in schools experienced a spectacular leap during this period. Although still new to teachers, they are familiar and often used by students. Of course, classic learning methods should not be eliminated from the learning process, but students and teachers need modern learning tools, like those used in free time. Modern technology can be seen as a complement to education and not as a negative factor. Digital equipment has already proven its effectiveness as teaching and learning methods. Working with modern digital equipment is a challenge for teachers. However, many of them access and use modern teaching methods in class, adapting their classic lessons for the digital environment. With regard to electronic documents in the digital age, the learning unit is oriented towards solving some work tasks, mainly using the method of learning and

training skills by solving a wide range of practical applications and emphasizing the achievement of projects. The digital revolution is a phenomenon that also has implications in education. The instrumental aspect is important, because the instrument can also have an influence on the content, reconstructing it or redefining it. For example, when delineating the learning content, we must also consider the extensions that emerge in the virtual space and that can be brought, in one form or another, into the classroom and connected to the traditional curriculum. That is, teaching literature or philosophy, the teacher always refers to the curriculum, which prescribes a certain ideational content. But he can expand and tell students that they will find additional or more in-depth things by going to a particular web page. Therefore, the teacher must know, master and tame this means, appropriate it, connect it to the classical methodological tools.

Education is not only limited to teaching-learning activity. There is also an administrative dimension, which can be perfected by resorting to these platforms. Also, communication between school and family can be improved using new technologies - for example, the digital catalog, through which the parent is promptly informed about the child's school situation. Technological progress is a reality that cannot be stopped and must be accepted and addressed as part of everyday life, and can be seen as a challenge for education. For children and young people, the internet and social media are an essential part of their lives. According to international studies, a very high proportion of teenagers have used some form of social media and have a profile on a social networking site. Despite the common vision of two different worlds, a real world and a digital world, often seen as being in opposition, young people actually live in one world, comprising online and offline realities. If education becomes more effective and meaningful when it considers real life and elements of reality that are familiar to learners, it means that education should also consider online reality. If the educational process is perceived to be centered on something other than the accumulation of predetermined knowledge, but on developing skills and supporting learners to construct their own understanding of the world, it should refer explicitly to their life experiences. Thus, educators must bring the learning process closer to the real life of children and young people, thus incorporating aspects related to their experiences in the digital world.

The educational process should appreciate and use the competences acquired by children and young people through informal online learning or participation in ICT-related non-formal educational activities. Young people are more and more used to learning by exploring a new tool or using different online tutorials. This is actually evidence of autonomous learning skills and should be recognized and encouraged in the school context, along with critical thinking skills to develop the ability to identify reliable and valid sources of learning. Teachers need to feel confident in a position where they do not necessarily know more than the learners. As "digital natives", it is normal for young people to learn very quickly how to use different new ICT tools. It is of course very good for teachers to continuously develop their ICT skills, but it is not necessarily necessary to keep up with the students in this regard. Even without being ICT competent themselves, teachers can find ways to bring young people's ICT competences into the learning process as resources. New educational strategies, inspired by non-formal education, can be developed based on the use of the Internet and mobile devices that students already have. Also, many of the

educational activities that teachers are used to can be adapted by taking the digital world into account. Teachers should be supported to accept that students can be viable partners for mutually enriching dialogue based on respect and trust. By accepting the role of facilitator of learning, teachers help students develop independent learning skills and critical understanding.

New methods of communication between schools and parents are an important element of day-to-day school management. The use of the Internet is at the basis of these transformations. The way we live, the way we do business, the way we work, the way we study, the communication between people and even the way we spend our free time are influenced by the Internet. The important factors for the transition to the Information Society are the communication infrastructure and IT applications. Thus, from a political point of view, the Information Society must remain a democratic society, from an economic point of view, it must increase its development possibilities, and from a cultural point of view, it must become a knowledge-based society. The amount of information at our disposal is growing exponentially and, for this reason, a system of coordinating it is necessary, as well as appropriate selection services, based on the ability of specialists to analyze and evaluate the information, with the aim of helping him the beneficiary to obtain quality, up-to-date and fast information. As such, for the development of the information society, along with the information transmission technologies, a decisive role is also played by the content of the transmitted information, which, together with computer programs and music, constitute virtual goods, goods of a digitized world, which can be downloaded directly from the network. The new digital era determines a new type of approach to the educational phenomenon through new communication and information technologies. The analysis of virtual, online educations leads us to the conclusion that there is a new perspective of approaching the educational process under the conditions of postmodern societies. Currently, the system developed in the technology learning process is characteristic of the informal education formula. The advantage in the case of new technologies is the high degree of receptivity of young people, consumers of new media. Global culture dominated by technology is producing mass media literacy and shaping a new model of learning. The learning process is accessible and interactive, depending on the requirements of accepted social models. Online, virtual education provides useful skills for young people who are in the middle of the schooling process. Tools developed by application programs, marked by specialized design. The differences in value and content in relation to traditional education give a non-standardized, informal education model of connection in terms of the use of knowledge, information and learning formulas. The use of multimedia systems indicates a social barometer of trend orientation including in the plan of educational life. Interactive learning involves a new approach to accessing information and textual content, and education in the digital age involves developments, challenges and trends.

### ***6.2. Education in the Digital Age: developments, challenges and trends in the relationship between education and technology***

Children represent the hope for immortality of a nation and the parents who gave them life, the hope that they will live in their souls, as long as the memory of the good deeds done during life will be alive in the consciousness of the descendants. One of the highest deeds

that parents can do for children, beyond watching over their physical growth, is to educate them in the spirit of moral values. For such reasons, the Holy Fathers left us some of the most beautiful and profound words regarding the value of the act of education. This is a true art and has soteriological value, in the sense that, depending on the education provided to their children, parents receive reward from God when it has positive moral effects, or condemnation when it was not done responsibly and in the spirit of high spiritual values. Saint Porphyry the Kavsocalivit is profoundly right when he says that those parents who did not give their children the proper education are "losers", that they "failed" not only in educating their children, but in general. St. John the Golden Mouth considers that the act of training children has soteriological value, through the care shown towards it, they have the chance of forgiveness of sins and the acquisition of salvation. In the same spirit and with the same spiritual charm, Saint Paisius the Aghios believed that when they offer a "good" education, parents and educators, if they have no sins, sanctify themselves, and if there are imperfections in their lives, in proportion to their love and responsibility shown, they are forgiven from these. Over the years, the styles of education have undergone numerous transformations, tending more and more towards providing more and more rich knowledge from a theoretical point of view, but with a diminished moral and spiritual finality. From the creation of strong and tall characters, she focused on providing the most varied information, in the most efficient way [36].

Recently, the Covid 19 pandemic constituted a challenge not only for health systems, but also for education systems. The physical, "face-to-face" format, in which the educator communicated directly with the learner, was replaced by an online, screen-mediated communication. The effects of these realities, forced by objective events, will be observed over time. With or without a pandemic, digital technology has penetrated and continues to insert itself more and more into our lives. Specialists believe that we will soon end up not being able to distinguish too clearly between online and offline, that we will be increasingly surrounded by artificial intelligence, in increasingly varied forms, through its intrusion into our space, including the private one , and by our enthusiastic immersion in it. However, there are also specialists who warn of the risks posed by the "digitalization" of activities, their extreme form being "cyber-addictions". And children and teenagers seem to be the most vulnerable categories. Not having enough discernment and lacking parental and digital education, they can become slaves or slaves of cold technology, but with a special capacity for seduction and addiction. The present study does not claim to be exhaustive or to have maximum originality. He collects several materials in an attempt to answer some current questions and challenges, showing the importance and role of parents, and then of educators, teachers and teachers, in the growth and formation of children, students. Those who love high and deep meaning in life and are responsible for the intellectual training and moral development of the children with whom God has blessed their lives in our words clear advice and practical exhortations, which will facilitate their special work and give it a spiritual meaning .

Second, I have inserted some moral reflections on the presence, role and relationship with digital technology, with reference to the act of education. The fundamental idea, specific to Judeo-Christian spirituality, is that everything is good if it is used with discernment and for a high purpose. Thus, the Christian faith is not technophobic in the sense that it would

condemn technology and its various forms. The evil is not in matter, but in the wrong use we can give to it. The world is not bad, but depending on our attitude towards the things that make it up, it can become the way to Heaven or the way to hell. Similarly, when used according to rules or balanced conduct, for purposes and with high instructive and moral purpose, technology is a benefit. In such circumstances it eases, beautifies and ennobles life. On the contrary, in the absence of proper conduct, it has an addictive potential, which a still incompletely matured soul can hardly resist. The following pages highlight some of its risks, in the absence of moral discernment, with the hope of identifying them and acquiring an optimal digital behavior, which supports and strengthens the act of education, giving it formative value and moral finality.

I express a thought of high appreciation and sincere gratitude to the National University of Political Studies and Public Administration, the Faculty of Public Administration for organizing the Securing Smart Cities International Conferences, and to its patrons. Highly valued, because over the years they have given readers works of a chosen scientific outfit and of real practical value. These, along with the light of knowledge, bring rich meaning and peace to souls. I owe them, likewise, sincere gratitude for the honor of having accepted the publication of the conference volumes, among so many and valuable works published to date. I hope, at the same time, that in their pages all who will take the trouble and patience of reading will find current scientific truths and moral exhortations useful to the soul, regarding the principles of an education in virtue and morality. And thus, children, parents and educators may fulfill their vocation and discover the joy of a good deed, done for the glory of God, for soul fulfillment in this world and life and for a better future of the generations to come.

To the question "When should children's education begin?", we could answer, without making too much of a mistake, that since their conception, from the intrauterine period. We could even say that even earlier, from the "friendship" of their future parents, because, from those moments, they propose to themselves, as potential husbands, their ideals, aspirations, expectations, wishes and hopes, the most much of it related to the future family he might start. Nothing is more beautiful and uplifting for parents than the quality of bringing new creatures into the world, their children. But, in particular, this quality is enjoyed by the future mother. The pregnant woman is in a blessed and gracious period of her life. The period of pregnancy, beyond its weight and difficulties, is, for her, a privileged one, an optimal time for deep meditation on the meaning of her own life, a meaning that cannot be thought outside of the family and in the absence of the gift of childbirth. It is also a suitable time to reflect on the past, but especially on the future, the achievements up to that moment and, in particular, on the future achievements, inaugurated by the very act of the child's birth. A time of inner dialogue, with oneself, but also with the other members of the family, and especially with her husband and the father of their children, regarding the atmosphere in their home and, in particular, on the principles of raising and educating the future child. For these reasons and understanding the special situation in which the expectant mother finds herself, the whole family has the responsibility to surround her with affection, creating a climate of harmony and understanding, so that she can "rest" mentally and prepare for the expectation of the child. Any restlessness must be removed from her soul. "If the mother in her womb becomes angry and sad, then the fetus is also disturbed in her.

That is why the woman, when she is pregnant, must not cause anxiety to herself, but others must also try not to make her sad. By doing so, the child will be born peacefully, and the parents will not have problems with him either when he is small or when he grows up [37]." The lifestyle of the mother decisively influences the character of the child. During pregnancy, the expectant mother must change her entire lifestyle in order to give birth to a healthy child, who will later bring joy and comfort to her family. The main concern of the pregnant woman is to prepare for the birth of the future child, and then for its growth and education. After the birth of the child, the life of the whole family changes, it is called to show love and care, concern and responsibility towards the education of the new offspring. Regarding breastfeeding, through breastfeeding, children not only suck milk, but also love, affection, comfort, safety, thus acquiring a strong character. It is known that, thanks to campaigns aimed at the emancipation of women, today most wives and mothers are employed, sometimes performing professions incompatible with their delicate nature. Many of the "successful wives" are even busier than their husbands, have a higher income, and what has been observed in recent years, against the background of their increasing social and economic independence, most divorce applications are filed by such women, who want to live life to the fullest, to enjoy its pleasures, often with people other than the father or even the "fathers" of their children. But more and more of today's women and mothers find the high price of this emancipation, namely the betrayal of the conjugal home and the denial of their own vocation - as wives, but especially as mothers. The time spent at work is taken away from the time that used to be dedicated, almost exclusively, to the family. However, it is known that, unlike a man, who can fulfill himself in life through work, outside or in the absence of the family, a woman never feels truly spiritually fulfilled except in the bosom of the home, next to her husband and, above all, through her children. The mother's service is demanded by the increasing desires of today's family, in a never-ending spiral of expectations and in a constant social comparison with others, out of a desire to surpass them. And in this case, he recommends simplifying life, establishing rational and reasonable goals, decency in material things and cultivating spiritual values, among which the fundamental priority is the beautiful education of children, for life. Children's education is a particularly high responsibility of parents. For this reason, all other family debts must be subordinated to it [38]. Returning to the object of our approach, what would be the "lessons", more or less explicit, from which we could learn, regardless of levels, roles, responsibilities, from the online experience of exercising education? We bring to your attention a series of coordinates, the list remains open:

- a) Establishing and guaranteeing an openness, flexibility or self-regulation of the entire education system in relation to unpredictable dynamics of the world in which we live; an education system - as structure, functionality, resources, skills, forecasting exercise, etc. – it must be accommodating, adaptable, flexible, being prepared for any macro/extra level evolution that exceeds its own responsibility or functionality (natural, social, medical cataclysms, etc.); an education system must assume a "realistic coefficient of vulnerability", to preserve, permanently, alternatives or lines of maintaining and exercising specific functions and in the most unexpected or gloomy scenarios (social, historical, natural, etc.) [ 39];
- b) Capitalizing, integrating and "pedagogizing" new discoveries in the field of communication and information at the level of training practices; from a procedural-instrumental perspective, the educational process is required to be more attentive and

- "interested" in relation to the implementation of new acquisitions in the field of technologies in the specific territory (especially, in relation to innovations aimed at communication); any techno-cultural discovery or institution, in the course of history (the printing press, the museum, radio-television, the Internet, etc.), also had educational implications; the first question that could be asked, when something new appears in this field, would be this: to what extent can we exploit the new technical means from a didactic, instructive, formative point of view (of course, by subsequent adaptations and by "taming" the framework technical in relation to the objectives, possibilities and needs of the person's training);
- c) Rethinking the school curriculum and their concrete correspondences (curriculums, programs, textbooks, didactic aids, etc.) and in relation to the opportunities for generation and transfer of some virtual, digital contents, which emphasize activism, involvement and self- learning, etc.; of course, digital can come with some constraints - if we consider the relational aspect - but also with many opportunities that must be exploited; in the future, it is expected that certain sequences of the school programs (assigned tasks or activities) will be designed, right from the start, in the perspective of online learning;
  - d) The sequential, progressive – intelligent and inspired – connection of the culture offered by the school to that made available virtually; cyber-culture can become a referential of learning through effective, profitable didactic integrations, valorizations and meanings; the virtual space can house a vast material that can also become relevant from a didactic point of view, if it is haloed/integrated from the perspective of learning objectives; the school curriculum can also include open, even indeterminate sequences that propagate in virtual space (by the way, more and more classic cultural structures are building their virtual "doubles": the digital book, the virtual museum, the online conference, the distance school, the open university etc.);
  - e) Finding technical and didactic solutions to supplement or alleviate the lack of empathy, contact and socialization carried by IT staff used in training; the "humanization" and "spiritualization" of communicative artifacts with a formative purpose, through the relational "naturalization" of the virtual environment, by diminishing the psycho-social distance between the protagonists trained in the educational activity;
  - f) Revealing a new division between in-person and online education, including through relocation and asynchrony (the one in the classroom remaining predominant), by freeing up additional time for didactic activities and moving some peri-didactic activities online, solving tasks, working in virtual groups, carrying out projects, additional learning, counseling and psychological support, for consultations and meditations, for administrative routines, for communication with parents, etc.
  - g) Updating and adapting the evaluation framework or some of their components (tests, exams, contests, etc.) and in relation to the conditions of a distance learning situation (by rethinking the entire evaluation system, procedures, administered instruments, tasks /anticipated requirements, etc.); docimology, as a subfield of pedagogy, must also take into account "in absentia", "asynchronous", "remote" examination formulas or situations;
  - h) The training of teachers, both in the initial stage and during professional development, must also aim at the formation of skills for identification and



pedagogical use of the virtual environment and to capitalize, in school or extra-school didactic practice, the opportunities or valences carried by new technologies; I would propose that the didactics of teaching school subjects include explicit topics regarding teaching using ICT, didactic transposition exercises from classic to online, examples of virtual interactivity, ways to ensure feed-back and online assessment, etc.;

- i) Preservation and affirmation of the autonomy, dignity, importance of exercising the teaching profession through related normative, material, symbolic, deontological levers; the teaching profession, covered by verifiable skills, validated as such, must be valued and rewarded; many actors (parents, pupils, students, etc.) were able to realize, by going through/overcoming this stage, how complex and difficult the didactic performance is;
- j) Accountability, support and the provision of material and educational support for less obvious actors in the training exercise: pupils/students, parents, exponents of the local community, supportive-implicative associations, non-governmental entities, etc.; these "secondary" factors can become first-line and important, regarding the completion and continuation of education, both in normal conditions and in special borderline ones; a "parents' school" is not obsolete at all, associative structures can take over the tasks of defunct state entities, and representatives of local communities must not shirk their cultural-educational responsibilities, etc.;
- k) The establishment and propagation of an educational optimism, especially in crisis situations, demonstrated by the main actors - teachers, school managers, some decision-makers - who have proven responsibility, creativity, involvement, dedication, discovery of resolute solutions for the continuation and completion of educational paths, including through examination, validation, certification;
- l) Guaranteeing and establishing the culture of competence at all levels - from the minister of education, the school inspector, to the level of the school director, the teacher; trust is an important dimension that solves - managerial, practical, psychological - many problems; from the moment an important decision-maker says one thing today and another tomorrow, things can get out of control, etc.;
- m) Avoiding or reducing inequalities starting from access to technologies; there is a risk that the inequalities due to the educational interventions of the immediate environment will deepen; those who already have, will be given, those who do not have (technical conditions, etc.) will remain even further behind;
- n) Review of psycho-pedagogical theories about learning, forms and strategies of instruction, about the construction of knowledge, about the reception and internalization of values; the current pandemic demonstrated that the known theoretical arsenal did not cope with the complexity of the new reality; such a question remains a challenge for basic and applied research in the field of educational sciences.

## **7. Instead of conclusions, brief considerations about ethics and academic integrity**

The school forms the people and the universities the elites. Schools in general and universities in particular represent the strongest concentrations of intellectual elites. They have the mission to ensure the moral and spiritual health of the nation through education, to prepare young people for life, thus ensuring the future of the nation. While social elites

have associated and undertake coherent actions to promote and protect them in society or to impose rules that recognize their value, professional elites benefit, first of all, from recognition within professional associations, their recognition within society being conditioned by the attitude of political leaders, opinion-forming factors, by the way society is prepared to accept the role of the elites in ensuring their progress and prestige. A short tour of academic "Ethics and Integrity" is, of course, too little to cover the relevant subject matter in all fields of science and at all levels of study. It would have been ideal to have available, for university education - not excluding pre-university education - separate adaptations and developments of this text, one for each faculty and for each level of studies at which the discipline has become mandatory. The need for particularization arises from the only partial overlap of the ethical issues we routinely confront: to a significant degree, for example, they will be different if we are doing laboratory research or on living subjects, or if we are working especially with texts or in the archives. Noting this shortcoming from the outset, we still believe that we provide a useful, albeit incomplete, tool. Although some of the moral challenges will be specific, there remains a consistent core of cross-cutting themes. Ethically competent analysis and evaluation of a situation presupposes minimal familiarity with a set of basic argumentative concepts and tools; the institutional mechanisms of the university in the field of ethics management are common to all; the moral arguments against plagiarism remain largely the same, even though the "technical" citation rules may differ; bullying is just as repulsive when it happens in a laboratory, and when it happens in an archaeological site or a library, etc. The casuistry may vary, but the structural characteristics of the situations often overlap [40]. This study mainly addresses such transversal themes, not only from the area of moral philosophy. However, we tried to use illustrations that also come from the natural sciences, social sciences or the humanities. They can, we hope, at least function as starting points of wider development. Our intention was to think of a useful text for teachers, but to write it mainly for everyone interested.

Ethics is particularly interesting when it involves different moral intuitions or values and when we face dilemmas where the decision is not obvious and disagreement is reasonable. Therefore, we have tried to avoid verdicts and mere enumeration of prohibitions as much as possible. Dilemmas and open questions generate debate and occasion reflection. Sentences, on the other hand, tend to kill discussion and rather prompt reactions of embrace or vehement rejection. If we come, in our professional communities and society, to talk more to each other and less to each other, we will probably have taken a major step in the right direction in developing a moral attitude. There are other materials that can be extremely useful for supplementing the content. With a simple click we discover significant examples so that, together, they provide a first approximation of an already very vast field of reflection and research. Without going into too many details, we propose an exercise: Imagine a box of freshly picked apples. After a while, you notice that an apple has become moldy, so you remove it so that it does not spoil the neighboring apples. The situation is repeated several times during the following days. Finally, take a closer look at the apple crate and find that the crate itself is rotten and that's why all the apples were getting moldy. But what if the apple crate is a metaphor for the university, and the apples for the members of that university's community? Which do you think is more relevant to explain perpetuated and widespread immoral actions, the rotten crate (the university environment in which the immoral behaviors occur) or the rotten apples (the individuals who behave immorally)?

immoral are neither unimportant nor as difficult to evaluate as one might think. They help create an unethical organizational environment where everything seems to be allowed, which will encourage even more unethical behavior.

Take for example the case of University X, known among applicants, students and professors as a relaxed space where you "get by" without too much hassle: it's easy to get in, course requirements are minimal, seminar papers "are solve" for the correct amount, in the exams you can learn nothing because you pass anyway, and after graduating, there is no problem of stressing. Teachers "turn a blind eye" when they notice or learn about bought or plagiarized papers, and most expect various "attentions" on exam days. The new chancellor of University X, however, has a different vision of how the institution should function and wants to run a moral university, where ethics and academic integrity are valued and respected by all members. What to do? For example, the chancellor could severely sanction each individual misconduct in the hope that the wrongdoers will learn a lesson and behave ethically in the future. The solution is necessary, but is it also sufficient? The problem is that misconduct is not the exception, but rather the (unwritten) rule of behavior at University X. Everyone behaves immorally, because "that's the way it is" here. There seems to be a group "contamination" with immoral actions. As in the case of any organization, we can also speak in the case of universities about a general and collective level of morality, located beyond the morality of each member of the respective institution. This is because a university is moral if its current practices (the university context or environment) encourage its members to adopt moral conduct [41].

Why do we need ethics and integrity in academia? Whereas, as Kaptein and Wempe argue, a moral diagnosis of University X based on an informal opinion poll shows that the main immoral behaviors are, in descending order of frequency, the following: flawed teacher-student relationship: targeting, harassment, treatment arrogant of students, plagiarism, conflict of interest, nepotism, unfair competition, issues of ethical evaluation of research projects, influence peddling, correctness of marking - corruption, violation of the right to privacy (in marking, in final grades, in statistical data, etc. ), the status of small institutional gifts, etiquette problems in classes and in administrative services in turn, an environment in which a set of organizational practices develops that can be subjected to moral evaluation [42]. These organizational practices specific to each university are actually expressed through the actions of the members of the respective university and form the moral context in which ethical decisions are made, as Menzel would argue [43]. Far from being neutral or passive, the university context or environment plays an active role in the ethical decision-making process, in that it can constrain or, as the case may be, stimulate university members to act morally or immorally. This can be expressed either explicitly - through the policies and procedures in force (formally, at the level of the university structure), or implicitly - through attitudes, perpetuated traditions, assumed values (informally, at the level of the organizational culture in a university). Immoral behavior in the university has consequences, and we find it worthwhile to be so concerned about creating moral universities. It definitely seems more like an ideal than something we could translate into reality [44].

Of course, we can ignore the moral dimension of university life, but we will do so risking damages of all kinds, from those regarding job satisfaction, to those aimed at reputation and financial losses because as Spiru Haret said, "How the school looks today, so the country will show tomorrow". And vice versa: what the country looks like today, the school will look like tomorrow, and those who have had the patience to read our analysis know that the hard truth corresponds to the above descriptions, I also invite you to try predicting the future based on the assumption of this present, certainly unpleasant, but necessary, like the treatment of a disease. Today, Romania is like a madhouse, and unfortunately this comparison is not even a forced one, made only as a possible figure of speech. Unfortunately, Romanian society obviously shows shocking similarities with that of a hospice, and its citizens behave in such a way that they can easily be assimilated to doctors and guards, on the one hand, and patients, on the other. Because, a society repeatedly subjected to major traumas, as our society was at least in the last century, consecutively generates nervous diseases at the level of the individuals that compose it. After 45 years of Communism imposed with terror, in which I became aware of the prison I was living in, which came after the experience, unhappy in its second half, of an imported, selfish, corrupt and dictatorial monarchy, followed over 30 years like this the so-called post-revolutionary period, in which hope was repeatedly killed, civility and representative democracy were practically permanently compromised, the traumas inflicted on disadvantaged social groups became chronic. This study presents the symptoms that we must watch for, of some diseases that have settled in our social environment. "Of course, the years have passed and the school is obliged to keep up with life, but not throwing overboard the real values in favor of some illusory ones. And the European, national or local education programs are very important, but we are not missing them, first of all, but the application of the existing laws, the removal of education from the status of a cinderella, the serious treatment of the school. Otherwise, we will destroy, without bombs and without pandemics, but step by step, this people." [45].

## Reference

- [1] Romanian Academy (2009), Explanatory dictionary of the Romanian language.
- [2] Clive Staples Lewis (2023), The abolition of man or Thoughts on education, with particular reference to the teaching of English in large classes, Humanitas Publishing House, Bucharest.
- [3] Acad. Mihail-Viorel Bădescu (Wednesday 15 February 2023), Trilemma of technological civilization: between tradition, conservationism and revolution, Reception speech given in the Romanian Academy, Technical Sciences Section.
- [4] Idem, p. 7.
- [5] The informal term Anthropocene was proposed in 2000 by Paul Crutzen (Nobel Prize in Chemistry, 1995, for elucidating the causes of the hole in the ozone layer in the atmosphere) and Eugene Stoermer, a researcher in the field of biology.
- [6] The Kardashev Index was introduced by Soviet astronomer Nikolai Kardashev and measures the degree of technological advancement of a civilization based on the amount of energy it can use.
- [7] M. V. Bădescu, op. cit., p. 14.
- [8] Ben Todică, Who we are, where we are going and why?, taken from the website: <https://www.artemis.ro/jurnalistica/cine-suntem>.
- [9] The reception speech of Academician Dorel Banabic The evolution of technique and technologies from the first to the fourth industrial revolution and their social impact delivered on 26.09.2018 in the Aula of the Romanian Academy taken from the website: <https://academiaromana.ro/section/doc2.pdf>
- [10] See, for details, the website: <https://www.institutsapiens.fr/top-5-des-metiers-en-voie-de-disparition>.

- [11] Chris Skinner (2018), *Digital Human*, Wiley, Hoboken, NJ, USA.
- [12] See website: <https://www.weforum.org/agenda/2018/03/timeline-of-creative-ai>.
- [13] According to <https://www.digitaltrends.com/cool-tech/japanese-ai-writes-novel-passes-first-round-national-literary-prize>.
- [14] Erik Seedhouse (2014), *Beyond Human*, Springer, Heidelberg.
- [15] Heidegger M. (1954), *Die Frage nach der Technik*, in: *Vorträge und Aufsätze*, Neske, Pfullingen, p.5-36.
- [16] Hannah Arendt (1958), *The human condition*, University of Chicago Press, Chicago.
- [17] Jacques Ellul (1964), *The Technological Society*, Vintage Books, New York.
- [18] Adrian Lemeni (2022), *The inhuman technicalization of life*, Basilica Publishing House, Bucharest.
- [19] Joseph Pitt (2000), *Thinking about technology: foundations of the philosophy of technology*, Seven Bridges Press, New York.
- [20] Anthonie W.M Meijers (2009), *Philosophy of Technology and Engineering Sciences*, Elsevier, Amsterdam.
- [21] Marc Prensky (2001), *Digital Natives*, *Digital Immigrants in: On the Horizon*, Vol 9.
- [22] Marc Prensky M., H. Sapiens (2009), *Digital: From Digital Immigrants and Digital Natives to Digital Wisdom*.
- [23] Gerd Leonhard (2016), *Technology vs. Humanity*, Fast Future Publishing Ltd..
- [24] M. V. Badescu, *op. cit.*, p. 17.
- [25] *Ibid.*
- [26] Alec Ross (2016), *The Industries of the Future*, Simon and Schuster, London.
- [27] Martin Ford (2016), *The Rise of the Robots*, Oneworld, London.
- [28] Pyper J. Drake (2014), *World's first three-dimensional printed car made in Chicago*, *Scientific American*.
- [29] Academician Dorel Banabic, *Reception speech*, p. 14.
- [30] Ovidiu Hurduzeu (2005), *Happy slaves - The world seen from Silicon Valley*, Publishing Timpul, Iasi.
- [31] Ovidiu Hurduzeu, Mircea Platon (2008), *The Third Force: Deep Romania*, Logos Publishing House, Bucharest.
- [32] Manfred Spitzer (2020), *Digital dementia*, Humanitas Publishing House, Bucharest.
- [33] The article "Is Google making us stupid?" was published by Nicholas Carr (2012), in *The Atlantic Monthly* and in the meantime he developed it into a book, *The Shallows*, ("The Superficials"), *Effects of the Internet on the Human Brain*, Publica Publishing, Bucharest. See also Nicholas Carr (2014), *The Glass Cage, Automation and us*, Original title: *The Glass Cage*, Publica Publishing House, Bucharest.
- [34] M. Spitzer, *op. cit.*, p. 27.
- [35] *Ibid.*
- [36] Ioan C. Teșu (2023), *Education – from traditional to digital*, Sophia Publishing House, Bucharest.
- [37] *Idem*, p. 15.
- [38] *Ibid.*
- [39] Clive Staples Lewis (2023), *The abolition of man or Thoughts on education, with particular reference to the teaching of English in large classes*, Humanitas Publishing House, Bucharest.
- [40] Emanuel Socaciu, Valentin Mureșan (2018), *Ethics and academic integrity*, Bucharest University Publishing House, taken from the website: <https://deontologieacademica.unibuc.ro/wp>.
- [41] Muel Kaptein (2015), *Ethics Management*, in *Business, Ethics*; Publisher Springer.
- [42] Muel Kaptein (2002), *The balanced company: A theory of corporate integrity*, Oxford University Press, New York.
- [43] Donald Menzel (2007), *Ethics Management for Public Administrators: Building Organizations of Integrity*, New York.
- [44] *Op. cit.*, *Ethics and academic integrity*, p. 44.
- [45] Mr. Academician Ioan-Aurel Pop, President of the Romanian Academy, drew attention to the real problems in the Romanian education system. See, for details, the website: <https://www.agerpres.ro>.

