European Journal of Science and Theology, April 2023, Vol.19, No.2, 25-37

THE RISKS OF A ROBOTIZATION OF THE HUMAN BEING

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(Received 24 June 2022, revised 20 January 2023)

Abstract

The risks of the robotization of mankind generate both an issue related to the anthropo-technical nature of mankind's quest for greater well-being. And, to the technical evolution that follows the appearance of man in his natural environment or biotope. Thus, through a Promethean adventure that makes him a production and even reproduction machine, man wishes to give more than a meaning to existence, in the manner of a homo sapiens and a homo-faber, by producing and reproducing machines or robots on a human scale. Moreover, these gadgets thus obtained constitute for man a form of concomitant transformation of his anthropo-biological nature and his environment, towards a transhumanising existence. In any case, we note that this anthropo-social emergence of technical humanism favours, on the other hand, the alienation of human freedom than the blossoming of the very nature of man as a being of freedom, in constant and permanent quest of the integral progress of his humanity.

Keywords: risk, robotization, human

1. Introduction

The striking reaction immediately arises from the socio-cultural and anthropological violence of techno-scientific humanism, which has a considerable impact on man's biologic-ontological nature. The latter is worried about his adventure, which from the outset continues at the mercy of his biologic-ontological nature, and about his future in a digitised world of the Sixth Continent: the digital humanism of the world, with reference to artificial intelligence. It is for this reason that man finds himself in the impasse of a certainty and a concern at the same time, and which then proceed(s), however, from his anthropological nature that oscillates between patience and impatience to be prevalent and structured by a desire for increased curiosity. With regard to the future, and even the humanist and transhumanist future, which are part of man's desire for knowledge, the onslaught of artificial intelligence helps to surpass his prowess and existential desires. The revolutionary picture of artificial intelligence paints the reflection, thought and reasoning of man towards the

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advent of robots at the risk of the robotization of man according to the metonymy of Philippe Coiffet [1]. Man, living in anxiety, wonders if he can be eliminated, remodelled, robotised according to the aspirations of his adventure in the history of humanity? Yet, the risk of man's becoming materialises under a historical-economic dialectic 'of the slave-machine' and, through the anthropo-biological nature of his humanity. Should man revolt against the risk of the robotization of his humanity? The problem that engages our reflection consists in the question of the substitution of man for a humanoid robot. The emergency of saving the essential nature of man constitutes a cardinal issue for human existence because his success is due to his nature as a rational, irrational and even failed creator. This is because of the great digital misfortunes induced by the manager of the ultra-rational, which he never ceases to want to appropriate more. From then on, this work focuses on the consideration of man as a production machine, then on the stakes and implications of the rise of the machine and finally, on the illustration of the residue of human freedom in the face of technical humanism.

2. Man - a production or reproduction machine?

First of all, we ask ourselves the question: what degree of autonomy can we expect from robots in relation to man? Robotics was born some fifty years ago and has developed at an impressive rate so far. For centuries, man has been putting in place increasingly sophisticated techniques, having as their main stake, the reduction or even elimination of physical effort, considered as a source of energy in the production process, according to the synecdoche of Paul Courbais in his article 'How far will the machine replace man?' [2]. It must be said that Robotics consists of dealing with the relationship that a machine that moves and whose movement is controlled by a computer through its use that manipulates information that does not move, can have with the real world. The concept of the robot is part of the sciences that make living beings in general and humans in particular their objects of research. As a result, the nature of man appears as a production machine, where the roboticist must make robots, and where the neurophysiologist, the biomechanist and the psychophysicist must try to understand man and animal in their respective modes of operation. Thus, each of these socio-anthropological functions has a precise mission: the roboticist is condemned to the ever-innovative practice of producing gadgets, while the others must seek to understand and focus on the production of know-how and know-how-being. One is thus inclined to believe in an iron dynamic as understood by Jean Paul Laumond, a reader of Poudroux, in Tales and legends of Greek mythology, highlighting 'the myth of Hephaestus', with the talented craftsman, the engineer, and the 'god of iron' making remarkable weapons, chairs, mobile robots, chains and machines relating to the 'Frankenstein monster' [3]. It is in this sense that "he goes so far as to fashion a Pandora, a clay statue to which Athena will lend life. He has a tumultuous harmonious life". According to Apollodorus, a chronicler of the second century BC, if

'Hephaestus' is 'the god of iron', 'Athena' appears for her part as the one inspired by, and thus the goddess of knowledge. Hephaestus seeks to possess Athena, but does not succeed and the 'do' cannot claim knowledge. Through this myth, man is presented as a production machine.

The robotization of man constitutes a major issue in the 21st century, and this, to the obvious observation of the deep relations of the installation of "the infrastructure of the world" [4]. Through the emergence and pronounced interest of the digital economy which is symbolised by GAFA: Google, Apple, Facebook and Amazon, man has ended up digitising his anthropo-biological nature in a geometric and arithmetical way. As a result, Luc Ferry highlights the industrial revolutions that could lead to the end of neoliberal capitalism, to the revolution of the robotization of man. Today, the observation is clear, with regard to the technological revolution that has become a factor in the transformation of man into a machine. In this period of transhumanism, the game is structured on the man-machine/human-tool. A retrospective look at the second industrial revolution brings to the fore the rise of the steam engine and the invention of the internal combustion engine. The twentieth century brings a breath of relief through the rediscovery of electricity, where the spectacular and vertiginous development of capitalism and even of human capital prevails, leading to new forms of information and communication technologies, better known without the expression of innovative technology, which are applied to the socio-cultural and biological-ontological transformation of man, who has become a living machine. The third industrial revolution is the one we are experiencing today by "the 'new sources of energy, in this case decarbonised energies or green energies' (wind, photovoltaic, geothermal, hydrogen fuel cell and soon, methane hydrates), with a new form of communication, that of interest or rather, as we will see, and of the internet, for there are various species" [4, p. 146]. This phenomenal situation underlines the socio-cultural reality of the modern economy, where human nature undergoes artificial maturations through the machine. The new sources of energy are related to the development of the robotization of man by the machine, and with the implication of the industrial boom. It must be said that this third industrial revolution contributes to the transition from transhumanism to a digital humanism of society as well as to the setting up of infrastructures of the collective economy. According to Ferry, a reader of Schumpeter, this situation of the human economy is fundamentally a creative and recreational construction of man, by means of the machine. To this end, technological inventions promote increased productivity and human transformation, while offering new products and services to man.

Man is a being of production and of initiatory design, because he is considered a humanoid, a machine and a robotic gadgetized by industrial production and reproduction, aeronautics and aerospace, economic intelligence and social-political geostrategies. The personification of the robot-machine reacts to a historical movement between the state of being and the state of having in the world of the real. Furthermore, can the robot contribute to a real understanding of the functioning of the living? For this "robotics deals with the relationship with the real world, which a machine that moves, and all

movements are directed by a computer" [5] can maintain. It is in this vein that the industrial era constitutes a new relationship to technical artefacts, a 'great shift' due to the fact, of technical change of the engine of history, "in the human capacity to extract itself from natural contingencies thanks to the power of techniques" [6]. That is to say, the great contemporary achievement is the tipping of man towards the impressive power of new technologies and, as the main actor, his desire for knowledge that goes beyond the anthropo-cultural and metaphysical imagination. Man is destined by nature to be a production machine and a motor of technical progress, which are part of an evolutionary and progressive vision of the history of his anthropo-cultural identification. Man is the product and reproduction of the machine age [6, p. 126], which demonstrates the innovative power within the imaginary of technical progress. For this reason, yesterday it was fiction and today it is reality: the humanoid robot is a machine, resulting from the metamorphosis of human intelligence. The concretisation of ancestral dreams through the phenomenon of anthropomorphism of man is one of the ambitions of a copy that can or even does surpass its model and its Creator. In the end, man makes a leap on the historical movement of humanity through his evolution in the face of the otherness of the man-machine, production and the finitude of man.

Thus, man manifests himself as a producer of machines that are made in his image, because he is a being in the image of the machine or the scrap heap. From this chiasm of Wiener, a reader of Darwin, who makes an anthropographic analysis of man, Lamarck fits in with the theories of transformism and evolutionism. "To this end, these theories highlight the transition from the living human being to the man-machine; man makes man in the image [...] would not something similar take place in the less complicated case of the non-living systems we call machine? What is the image of a machine?" [7] In other words, Wiener, a reader of Plato, Darwin and Lamarck, paints a metaphorical picture of the image of man that metamorphoses like a machine and of which the computer can nevertheless provide a sophisticated version.

Similarly, man is presented at this level as the phenotype of the creative and machine-producing act. Also, it is necessary to recognise that the myth of Prometheus is considered as the archetype of emancipation through the fire of knowledge. This myth is transformed into a science fiction of societal reality. At the socio-cultural level, man is considered as a machine for production or for producing robots, which in turn enable him to supplement domestic, industrial, economic and spatial tasks through: sensor robots, drones in all fields of activity. In this sense, Karel Capek thinks that "works of fiction present a second motive presiding over the creation of robots: to free man from work. It is a question here of producing autonomous machines capable of substituting for man and replacing him as a labour force." [8] That is to say, this large-scale project revolves around the issue of man presenting himself as a production machine. In this, it is no longer a question of the creation of the human, but of a production of objects and machines, endowed with a power of emotion that retains only what is useful from the human in view of the latter's fulfilment.

Yet, the basis of man's nature consistently pushes him to be a mechanical agent dedicated to putative productions of his existence. Ultimately, from this metaphor of man as a machine, where Julien Onffray de la Mettrie thinks enthusiastically, the adventure of man „where the machine has a mechanic imprisoned in its bosom, or it works because its construction is such that it must work a longer or shorter time according to the excellence, perfection, and balance of its parts" [9]. From this euphoria, man functions as a machine and consequently, he is defined as a production machine, or to produce, in the vigorous regard of his prowess of his dialectical movement of history which, is located at the antipodes of a state of being and having related to his socio-cultural and anthropo-metaphysical existence. If man is seen as a production machine, given the multiple issues, challenges and implications that point to his anthropomorphic nature, then, in all respects, does the latter lead to the rise of the machine?

3. From the rise of the machine to a humanoid or robotic being

Is man still perfectible? How does nanotechnology contribute to the increased possibilities of hybridization of man with machines? Does the emergence or rise of the machine constitute the anchor for the robotization of man? The recent rise of the machine is consistent with the technologies of artificial intelligence which were progressively represented first by homo sapiens, then by homo-faber. Then finally, through the great boom of the disruption of human nature allows to form and, at the same time, to deeply transform our societies, our cultures, our human capital, our mores and our economies. Therefore, the machine is defined as a device and an instrument for moving human activities. In view of the rise of the machine, these human activities are presented under several labels, depending on the utilitarian tasks.

The rise of the machine, it should be noted, dates back to the Industrial and Technical Revolution of the 17th to 20th centuries, with the scientific and technical progress that resulted in inventions and major discoveries in the fields of biomedicine, transport, industry and agriculture, etc. As a result, in the second half of the 19th century and at the dawn of the first half of the 20th century, these scientific and technical advances had a massive impact on the planet with industrialisation. For this, the development of coal in England, which is a decisive factor as presented by Claude Wohlen in *What is industrial revolution?* from 1971, by distinguishing four main phenomena [10]. The first action of the great boom and the exploits of techno-scientific humanism is related to the multiplicity of inventions of the 17th century, in the field of textiles, metallurgy and energy with the invention of the steam engine by James Watt in 1769. The second action of this great boom of techno-scientific humanism is the rapid transition from invention to technological or technical innovation: the manufacture of the machine through the application of new processes requiring capital provided by large landowners or, even more often, through self-financing obtained through the internal growth of industrially nascent companies. The third step is the movement from technical innovation to industrial innovation

making the entrepreneur, the hallmark of Joseph Schumpeter's innovator in the book *Capitalism Socialism and Democracy*, the central figure of the industrial revolution [11]. The fourth phase focuses on human capital, whose soaring demographics, which is felt through the globalisation of a unified market, shows that there would be many more consumers, no doubt due to the high demand. The industrial revolution led to a new paradigm of production and to the establishment of a scientific organisation of work by machines. Today, we are witnessing a machine and robot revolution that is boosting the digital revolution and digital humanism in all sectors of activity.

The rise of the machine highlights the spread of intelligent machines in all spheres of human activity: hence transhumanism. This is why Robotics is progressively replacing humans, in the sense that humans are becoming increasingly robotic through their relationship with machines, which ultimately inherit the neurobiological matrix of human intelligence by merging with their socio-anthropotechnical reality. This substitution of the human being is manifested in robotization, which leads to the production of large series of standardization offering an appropriate framework for empowerment. Both machines and robots are an extension of human nature, where automatons promote the convergence of a series of revolutions, with the assignment of primary repetitive tasks at stake. To this end, Beatrice Jousset-Couturier believes that, "we are moving towards a functional society where the individual is transformed into a technical segment and becomes, so to speak, a 'detached piece' of a huge technological puzzle" [12]. That is, the impact of the rise of the machine allows the transformation of society into detached pieces with the rise of a technologically determined world. The human machine is increasingly substituted for numerous automata simplifying the technical process of production in order to illustrate the technological construction carried there by the installation of robots in factories constituting a recent trend. A historical reading reveals that the human robot was the first to be designed to handle castings at high temperatures and was installed in a General Motors plant in New Jersey in 1961. The first robotic production did not appear until the early 1970s, when welding and painting activities were combined with the technical and machine-like hominization of humans.

Nowadays, the hybridisation of man with machine is a perfect illustration of the personification of robots/machines driven by the spectacular technological progress that makes the socialisation and anthropologisation of human nature technically possible, with a view to its well-being and happiness. A retrospective look at past decades, reviving the propensity for myths, surrealist currents and science fiction, demonstrates a gradation of the socio-anthropological reality of digital humanism that is the rise of the machine. Robots/machines are increasingly present in our daily lives, including even the most mundane ones such as: connected voice assistants are being developed, in order to place commands by voice and in this way; we are witnessing a human + machine interaction. Robots/machines have undergone mutations due to mechanical, anthropotechnical and socio-technical gearing. For this reason, the major

objective of these robots/machines in the industrial age, of digital humanism and transhumanism, is to increase the productivity or reliability of the production process in a world technologically determined by the machine or material. The machine cannot be deployed without direct interaction with humans. Industrial machines/robots are sometimes capable of adapting to well-defined tasks, such as picking up objects of different sizes and weights on a conveyor belt, or composing batches of packages in warehouses, as is the case with Amazon's robots. In this sense, Beatrice Jousset-Couturier believes that robotics is progressively replacing 'the human', humans are becoming more and more robotic, and their relationship with increasingly intelligent machines is becoming more and more fused [12]. As a result, the machine and the robot are brought to the service of man, thanks to the direct interactions between humans and robots/machines, thus responding to the cherished wish for the development and improvement of the living conditions of man and his environment.

Techno-scientific humanism is an opening up to the machine and robotics of man for a virtual, digital and technological conversion of the hybridisation of man. Through the development of human machinery which finds a favourable echo in Karl Marx, reader of John Stuart Mill, in *Principles of Political Economy*, where he states that one may "ask whether all the mechanical inventions made up to this time have lightened the daily labour of any human being" [13]. This prologue unquestionably highlights the anthropotechnical character of the machine, which has contributed much to the radiance of humanity's existence. One thus sees how the means of human labour has gradually been transformed from tool to machine. And so, how does the machine differs from the handcrafted instrument?

When we talk about the substitution of the tool for the machine, we observe a consequential difference in the evolution of the machine towards the robotization of man. For the power of the machine today is a factor in the socio-cultural and ontological-biological transformation of man into a machine hybrid. And for this reason, the natural force of the human being, which is constituted by the four elements of nature, is a form of concealment of the machine in man. It is in this vein, Karl Marx expresses that: "every developed machine consists of three essentially different parts, the driving machine, the transmission mechanism and finally the machine tool working machine. The driving machine acts as the actuating force of the whole mechanism" [14]. In other words, the tool and the machine are based on the synecdoche of the human body; with its different limbs: bones, muscles and joints. In this way, the latter correspond to the hybridisation of the human with the machine, which acts autonomously under the impulse of driving forces such as: air, water, fire, fuels, etc. It should be noted that the rise of the machine is a consequence of a historical evolution relating to the mutations of machinism, through the passage of tools, of the craft arts, to the machine and to robotization.

Robotics constitutes the essential stake in a direction of research, with the help of nanotechnologies favouring the transformation and metamorphosis of the machine into a human. It should be emphasised that the mutations in Mechanics, Mathematics, Physics and Industrial chemistry that make it possible to

materialise the management of the functionalism of man into a kind of machine. The purpose of the march towards the metamorphosis of man with the machine is to replace the daily tasks of man in all sectors of activity. In this sense, for Karl Marx, "the machine, which is the basis of the industrial revolution, replaces the worker manipulating his singular tool with a mechanism that operates at once with a quantity of such tools or tools of the same kind and is driven by a single actuation, whatever its form" [14, p. 44]. The role of the machine is ultimately to substitute for the various tasks of man while reducing the time and cost of labour.

The metamorphosis of the anthropomorphic human system into a humanoid robot is both a redundant and under-acted system of the 'homo-faber' nature. This puts into practice the functioning of the human skeleton through the body which has the muscles that constitute the motor space. Furthermore, current humanoid robots are a simple system, whereby each joint is associated with a motor. Indeed, the substitution of the human for the robot disposes it to the phenomenon of muscular contraction where the humanoid robot is based on the human skeleton, body and muscles. Today, the technological prowess achieved by the human being suggests that the 'homo-faber' is a being of production of a diversity of material and spiritual values. Thus, the relationship between man and the humanoid robot allows us to understand our relationship to the world and to otherness. This is why Henri Poincaré expressed himself in his terms that, "certainly, it is the power of Mathematics to propose a common formulation to sciences and techniques, it is this basis that contributes today to the emergence of new fields such as neuro-robotics" [15]. This means that, the power of man lies in his anthropomorphic nature in the sense of his hominization by machines and robots which, gives rise to the humanoid robot. What then is the residue of human freedom in the face of the robotization of man?

4. What remains of human freedom in the face of techno-scientific humanism?

To begin with, does human freedom depend on scientific expertise? In other words, is human freedom a function of the benchmarks, repertoires and scientific expertise of the scientist or researcher? What structures the super-nature of man? How can we think, for example, about the freedom of a cloned or transmuted being? Is human freedom subject to that of Spinoza's divine will? Is human will infinite in the face of divine freedom in Descartes' reading? For existentialists: is the desire to act, the will, and responsibility a stake in human freedom? Is freedom independent of Kant's human will? These questions thus highlight the epistemological residue of human freedom, which is a function of the historical-dialectical movement of the desire to act, the will and responsibility in anthropo-cultural, spatio-temporal and socio-experiential history. Freedom is a function of the parameters of the desire to act, will, responsibility and even indeterminism, thus concurring to an anthropo-biological restriction. And to an opening of human freedom at the expense of

technosciences, and of the Husserlian phenomenology of the 'noème' and the 'noèse', which lets the residue of human freedom, in the face of the wind of the technosciences of the living, loom large.

To this end, human freedom is comparable to the epistemological residue of human nature, in Husserl's reading [16]. Hence, human freedom depends on scientific expertise, because it constitutes an epistemological stake in technoscience, as a vector of freedom orientation, in favour of the prowess and benefits of these biotechnologies. It is for this reason that Ogien thinks that freedom consists in asking questions about the nature of the relations between these judgements (evaluations of good and evil, prescriptions of what to do or not to do, praise and blame, imputation of freedom and responsibility) and the desires, reasons, to act, decisions, actions, etc. [17]. In other words, what remains of human freedom constitutes fields of value judgment of a moral action, while making a consequent evaluation of the action as good or bad for human freedom. The main issue of freedom consists in accompanying techno-scientific action with a consequent evaluation in order to foresee and reduce the risks of distorting human freedom. According to Ogien, the evaluation of the moral act allows the human being to act according to his freedom and at this level the autonomy of the subject remains an essential stake in the accomplishment of his action and his prowess, in view of the judgement and the evaluation of human action [17, p. 1-16].

Moreover, human freedom is shaped by the expertise of technoscience, and for this reason, the evaluation of moral action depends on the field of investigation of the reason to act. Ogien, a reader of Kant, presents the evaluation of moral action through a judgement that is not a function of a morally acceptable act, but of the moral evaluation that is a function of the will to act, without any external or internal influence [17, p. 1-8]. This antinomic situation throws a spanner in the works of human freedom in the face of the great boom of human robotization and machinism that follows the emergence of techno-scientific humanism. It is for this reason that, the evaluation of technoscientific action is done by the will to act and a freedom based on human nature in the sense that Ogien states: "(...) our moral evaluations, our reasons, our decisions, our actions do not seem to be conceivable, given our current conceptions of what it is to evaluate morally, to desire, to decide, to act" [17]. That is, human freedom consists in evaluating moral action, acting, deciding, according to good conduct with a view to human happiness. In this wake, we observe the techno-scientific adventure that oppresses human freedom and we wonder if human freedom still has a price and a meaning in the face of techno-scientific progress, where biotechnologies, machines and robots dictate their laws and even try to phagocyte man afterwards.

The biotechnological approach and techno-scientific expertise put the factors deciding human freedom in the face of mutations in human nature at odds. To modulate this argument, Ogien believes that: "if action by a process similar to that of perception, neither good nor bad actions are 'voluntary'" [17, p. 6]. This means that, good or bad action depends on the will to act and, is a function of events related to the history of mankind. Thus, the scientist, the

roboticist or the blacksmith does not act wilfully evil, but out of ignorance as to paraphrase Plato. For this reason, the results of technoscience do not have the aim or objective of enslaving man, but on the contrary, of fulfilling him; for technoscience does not kill, and it is errors due to manipulation, or even to the uses made of it, that constitute a danger to man's scientific freedom. In this, Ogien, a reader of Plato, illustrates this situation in that: In short, the argument of the watertightness of the faculties, intended to ruin the moral intellectualism according to which, "nobody is wilfully wicked", "about is exactly the conclusion" [17, p. 6]. This is to say that, no scientist, biotechnologist whose man is wilfully wicked.

Freedom is conceived as any obstacle in the form of the manifestation of a driving force to which one must respond to a positive fraction, human freedom. According to Schopenhauer, freedom has three paradigms, including physical, intellectual and moral freedom. He believes that "physical freedom consists in the absence of material obstacles of any kind. It is in this sense that we say: a free sky (without magicians), a free horizon, free air (the great outdoors), free electricity, the free course of a river (when it is no longer hindered by mountains or locks), etc." [18] This freedom pits the freedom to have against the freedom to be, against materialism and pragmatism at man's whim. This freedom allows for human fulfilment, well-being and happiness. Similarly, physical freedom will bring about a positive freedom whose intrinsic qualities will be intertwined by the sole will of the subject who cannot change anything in his essence. Secondly, material or physical freedom, which, not being opposed to any techno-scientific action, allows the fulfilment of the human being in constant mutation towards sometimes liberticidal values. Today, human freedom is a function of the conditions of existence provided by technoscience and its derivatives in the material sense, i.e. to ensure comfort. According to Schopenhauer, material freedom is not driven by any external or internal motive. This is why material or physical freedom must be linked to political freedom; and why it (freedom) is the intrinsic value of man's free will.

One wonders whether the man who is subject to the influence of the material is still free. The alibi or pretext of acting under the influence of a driving force cannot justify the bodily force of man who is moved by an internal or external motive. Indeed, human freedom depends essentially on the choice and the will to act that one gives oneself according to the socio-anthropological, historical, environmental and also factual situations. Therefore, the will precedes the conscience, because man wants to be free and to enslave himself at the same time. Therefore Schopenhauer, a reader of Husserl, highlights the immediate consciousness in which, the human being cannot reflect, and therefore acts spontaneously and the reflected consciousness, where the subject recaptures himself: this intentionality pushes the human being, through his will to the awareness, "when a man wills, he also wills something, his will always has some objects towards which tends and can only be thought of in relation to this object" [18, p. 23]. In this passage, the materialistic character of the will and consciousness, which is a tension towards physical and material things, must be

emphasised. Human freedom depends on the will, the goodwill and the consciousness of something seen: freedom-will/consciousness-free-will. To this end, subjective freedom is a matter of the power that man possesses like an electrical phenomenon of colliding pebbles that gives sparks of possibility which, however, is conditioned by the fraction of them, where another objective possibility of the spark of freedom in man is observed [18, p. 31]. In other words, what structures human freedom is its subjectivity embodied in its pragmatism which is oriented towards a freedom and will in the face of external perception. Human freedom is dedicated to the external world and things. This is what gives rhythm to human freedom today, with the case of technoscience. What can we think about freedom in the face of the progress of technoscience today?

Moreover, it must be analysed that the mobilising principle of human freedom lies in an inherent postulate of the very alienation of human freedom, through the effects of technoscience and biotechnology. The effects of technoscientific expertise and biotechnologies constitute issues and implications of human freedom which is directed by intellectual strength and moral strength, just like physical strength, only improves with exercise. "He who lets the world, or at least his surroundings, lay out for him the plan of his life, needs only the initiating faculty of apes." [19] That is, human freedom finds its epistemological anchorage in the force of intelligence and physical force, having as its meeting point, human freedom. Thus, man is today represented before the techno-scientific civilisation as this model of freedom marked by techno-scientific culture. This march towards the anthropo-ontological freedom of man is seen to rhyme with techno-scientific culture and thus, fabrications of human freedom like the gadget civilization. In this sense, "a person is said to have character when he has personal tops and impulses which are the expression of his own nature as developed and modified by his own culture" [19, p. 47-48]. It means that, human freedom is conditioned by the orientation of techno-scientific humanism. This is why culture is an essential issue that frames freedom, because it represents a lever for the metamorphosis of human nature which in turn leads to techno-scientific expertises.

How can we think about the freedom of a cloned or robotic being? In what way is techno-scientific expertise a factor in the orientation of human culture? Can freedom be reduced to the indeterminacy of an action performed without motive? It is in this sense that human freedom faces the progress of information, relative to techno-scientific culture, whose act of freedom is naked under the effect of a materialistic impulse. In this respect, techno-scientific humanism constitutes a conditioning factor for human freedom, which presupposes self-mastery, reflection to the test of reason and the autonomy of the thinking subject. For this reason, Descartes believes that freedom is made up of a socio-historical lived experience. Moreover, it seems obvious that a free will can lead to consent or not to give when it wants in a structuro-social game of freedom. As a result, "freedom gives rise to possibilities of choice, in the sense that, I can choose to be free, but it is not necessary that, I can be indifferent to either of the two contrary choices, but rather, the more I lean towards one, either God so disposes the

interior of my thought, the more freely I choose and embrace it" [20]. Is freedom indeterminate with respect to motives and motives? The latter admits the freedom of indifference to a higher freedom, that of the voluntary act motivated by the power of a rational idea of techno-scientific culture: "so that this indifference which I feel, when I am not carried towards one side rather than another by the weight of any reason, is the lowest degree of the freedom of perfection in the will" [20, p. 72]. Descartes a reader of Saint Thomas Aquinas puts into the prism of the will that extends to the principle of infinity of human freedom. Is this will itself a desire that only the infinite good can fulfil human freedom? Is techno-scientific civilisation an open door to the sense of intimacy of the freedom of the human person? Does techno-scientific culture constitute a danger to private, social, cultural, religious and diplomatic life in the age of the technicised society? In what way does the privacy of sleep, of meals, of religious and cultural rites, of thought, favour the alienation of human freedom? Does techno-scientific humanism make it possible to jeopardise the right to freedom and the right of man? Freedom-moral law/social law-the categorical/moral imperative is the law of the techno-scientific civilisation, human rights and freedom are put in parenthesis in the face of the anthropotechnical mutations of the postmodern world.

The balance of human freedom is an issue of the good will of the sense of techno-scientific civilization. For this, the 'good will', according to Kant, cannot equal the gifts of Nature, the talents of a genius, wealth, because of the fortune relative to the gift of common sense (...), of Descartes [21]. Given this, Rousseau warns against the influence and danger of the risks of denaturing and depriving human freedom by the values of the digital civilisation [22]. It is in this sense that Kant's categorical imperative comes to determine the immediate way of human action, by what it puts into practice a universal law in a general way imposing itself under a maxim "act in such a way that you treat humanity both in your person and in the person of the other, always at the same time as an end, and never merely as a means" [21, p. 46]. The human being must not be considered as a means, or as a thing in the service of test tube babies, drug babies, biotechnological manipulations, robotization, commodification, but as an end in itself, having an inalienable human respect and dignity. By respecting himself as a reasonable being, man is not a thing that can be used for commercial purposes or trivialised through biotechnology.

5. Conclusions

Finally, it is about emphasising on the risks of a robotization of man, in view of the megatechnologies of the moment of technoscience and artificial intelligence. It is a question of presenting that man is both a machine for production and reproduction of the meaning of his existence, then the rise of the machine in the face of the mutations of the nature of man, to be a robotic humanoid, in the end, to spread the effect of the robotization of man on the latter's freedom. It is in this sense that Serge Latouche thinks that techno-

scientific humanism is an undeniable factor in the hybridisation of human culture [23]; in turn, the hybridisation of culture that standardises man towards his robotization [24]. This is the planetary apotheosis of techno-scientific humanism, which is an instrument of socio-anthological transformation of man's nature. This situation leads man to the end of the sacred. Can we think of the end of man's original humanism? Or, are we not witnessing the end of human freedom?

References

[1] P. Coiffet, *Robotics-principles and applications*, Paris, Hermes Science, 1992, 45-81.
[2] P. Courbis, L'Ordinateur individual, **203(mars)** (2008) 3-7.
[3] J.P. Laumond, *The library of Apollodorus*, J.-C. Carrère & B. Massomie (eds.), Presses Universitaires de Franche-Comté, Paris, 1991, 114.
[4] L. Ferry, *The transhumanist revolution, how techno-medicine and the upheaval of the world will change our lives*, Plon, Paris, 2016, 143.
[5] J.P. Laumond, *Robotics, a Hephaestus recurrence*, Collège de France, Paris, 2012, 17.
[6] F. Jarrige, *Technocratic. From the refusal of machines to the contestation of technosciences*, La Découverte, Paris, 2016, 30-33.
[7] N. Wiener, *God & Golem Inc., On some points of collision between cybernetics and religion*, French translation, De l'Éclat, Paris, 2001, 53.
[8] K. Capek, *Versas Robots*, French translation, Calmann-Lévy, Paris, 1920, 64.
[9] J. Onffray de la Mettrie, *The human machine*, Galerie D'Orléans, Paris, 1865, 42.
[10] C. Wohlen, *What is industrial revolution?*, Robert Laffont, Paris, 1971, 19-35.
[11] J. Schumpeter, *Capitalism Socialism and Democracy*, Macintosh, Québec, 2014, 74-108.
[12] B. Jousset-Couturier, *Transhumanism, Should we be afraid of the future?*, Eyrolles, Paris, 2016, 5.
[13] J.S. Mill, *The principles of political economy*, Macintosh, Québec, 2000, 152.
[14] K. Marx, *Capital, Critique of Political Economy, I^er^ livre: The process of capital production*, PUF Paris, 1993, 418.
[15] H. Poincaré, Rev. Metaphys. Morale, **3** (1895) 631-641.
[16] E. Hussel, *Cartesian meditations, Introduction to phenomenology*, French translation, Livrairie Philosophique J. Vrin, Paris, 1966, 55-80.
[17] R. Ogien, *The weakness of the will*, PUF, Paris, 1993, 1.
[18] A. Schopenhauer, *Essay on free will*, French translation, Collection: Library of contemporain philosophy, Germer Baillerie, Paris, 1877, 4-5.
[19] J.S. Mill, *Freedom*, Macintosh, Québec, 2002, 46.
[20] R. Descartes, *Metaphysical meditations*, Collection: The complete of Philo/Nathan, Nathan, Paris, 1983, 71.
[21] I. Kant, *Foundations of the metaphysics of morals*, French translation, Delagrave library, Paris, 1982, 27.
[22] J.P. Lafrance, *100 notions on digital civilization*, Éditions De l'Immateriel, Paris, 2016, 20-67.
[23] S. Latouche, *Surviving development: From decolonising to building an alternative society*, Milles et Une Nuits, Paris, 2016, 17-50.
[24] H. Bhabha, *The location of culture*, Routlege, London, 1994, 212-236.