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ISSUES IN THE ETHICS AND AESTHETICS OF THE NEW TECHNOLOGIES

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Abstract

In the analysis carried out we have established the fact that today's society needs are to be characterized by morality, this being the most important value where the individual can decide on his own life. Regardless of whether the techniques and technology have evolved, regardless of whether we are looking at aspects of the individual from the point of view of rights and freedoms, the ethical dimension will be considered the basis on which the facts will be judged. The dynamism and vitality of societal development have shown that human life and dignity are considered virtues, and from this point of view the behavioural attitude of individuals and of the political actors must be consistent with the moral principles upon which any rational action with a rational purpose rests. Thereby, under the rules ethics involve, even areas such as aesthetics - malleable entity across time - become study cases for the humanity's evolution stages.

Keywords: ethics, bioethics, engineering, technological evolution, ethical and aesthetic values

1. Introduction

The acquisitions of human experience are fixed onto a dimension of values in which the concepts of ethics and technology become complementary. The existence of such grounds, based on complex facts, expresses the idea that the contextual interpretation of reality (placed, otherwise, between opinion and fact), subject to a technological determinism, depends on the perception of the relationship between Bioethics and Aesthetics. This is a special need to explain the evolution of values with regard to new scientific results. In this sense, we consider an epistemological explanation of ethical and technological dimensions.

In addition, the methodological problem concerned highlights the quality of scientific process. We take into account, on one hand, the social norms, values of stakeholders in this approach, and on the other hand, the scientific context in which those actors are involved. Therefore, a foundation of a new scientific model (epistemological) considered to be reflected into how to address according to the explanatory approaches. Therefore, the social reality which

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shows a correlation into the literature it is known as technological determinism and evolution of aesthetic values, correlation combined with Bioethics dimension.

2. A few conceptual clarifications

The behaviour of the individuality from the perspective of values, virtues and morality has been analyzed since ancient times, the realm of Ethics dominating the political scene, even the human activities in Antiquity as well, so that the attitude towards certain definitive areas should not bring any harm within the spheres of his activity. Ethical principles, considered to be intellectual virtues, behavioural patterns or moral imperatives, constituted the foundation on which political or religious doctrines were founded, adopting attitudes in order to ensure social welfare as well. Over time, the Modern Age has established new values, the development of technology redefining the compromise between the researcher and – ultimate - the respect for life.

Applied ethics appear as a new indispensability, present-day societies requiring a deontology code to determine whether the attitude of social actors meets the moral criteria or not. Public opinion, or rather the psychology of the masses [1] requires respect and fairness, this being considered the capital of trust, under which one can set up an ethics and discipline committee to take into account the behaviour and conduct of individuals within institutions, from an objective perspective.

Today, technology plays a particularly important role from the viewpoint of markets globalization, an aspect proved by the fact that the lack of technological factors limits the ability of human production. More specifically, innovation has evolved ever since man invented useful objects for the daily lives. Given the fact that every day something new is launched in the public market, Science and technology require engineering system update or trying to keep up with the technological developments of the company in all its completeness. Whether we are talking about education, health care, management or economics, we should have in mind that development requires knowledge, intelligence and a reinterpretation of reality with the help of Robotics.

For a better understanding of them, A.D. Little proposed a classification of technologies, from which we mention: basic technologies, key technologies, emerging technologies and embryonic technologies, with the following distinction in the case of emerging technologies: nanotechnology, biotechnology, information technology, Cognitive science, Robotics, and Artificial Intelligence [2].

3. Bioethics, a field of reference

Over time, various researches were conducted, especially in the field of Ethics. Philosophers or thinkers analyzed both the behavioural attitude of the individual and the manner in which it is imposed within organizations or

institutions. However, approximately 40 years ago, a new science will emerge, the term of *Bioethics* giving a new direction to scientific research departments in order to circumscribe and establish this new domain. If, initially, in the *Neologisms dictionary*, Bioethics constitutes "the moral in Science in general" [3] this new area has been researched extensively, framing the dimensions of human rights existence from the perspective of Philosophy, more specifically from the perspective of Morality. As one can see, the term Bioethics was first used in the 1970s by the Rensselaer Potter [4], as a result of historical situations and the prospects of Science and engineering in general. From here we can deduce that the changes in society in particular, required a new domain to solve a fundamental and universal problem: the survival of mankind [5]. As the author stated, "*ethical (human) values cannot be separated from a realistic understanding of ecology in the broadest sense*", given the fact that it is absolutely necessary to relate the biological facts and the human values in order to construct a connection between Science and humanity: "*the survival of the total ecosistem is the test of the value system*"[6].

It cannot be only a matter of behavioural attitudes but of technological matters as well, since the problems of ethical nature propose inventing a new discipline consistent both with the problems related to tradition and religion as well as with those related to the moral attitude of the individual towards these problems, values constituting the foundation of "moral wisdom" [7]. From this point of view, the importance of the development of techniques and technology implies an awareness of their effects on moral issues so that managing knowledge matters does not prejudice society as a whole. Thus, we can state that when it comes to matters dealt with in the field of bioethics, themes such as the beginning and end of life, the use of genetic techniques or the new therapeutic frontiers were placed in a separate sphere, that of respect for the freedom, autonomy and dignity of the individual. Usefulness – related to common sense – or, better said, to an 'empiricism without theory', assumes assimilating the fact that of knowledge does not mean only the wisdom but also using it for the benefit of society, acknowledging the fact that principle-making can be considered one of the more than obvious theories of bioethics, meaning a *primum non nocere* (not harm).

Given that Bioethics had a great impact especially in Medicine and Biology, values and morality demanded their rights. Compared to the principles of liberalism and pragmatism, the discourse in Bioethics opened the political and cultural borders, favouring a loose interpretation of deontological codes. Responsibility, as evidenced by philosophers and intellectuals in the area of public policies, supposes a responsible attitude, but maintaining it cannot be identified with direct or active attitude. According to J. Silber, there are three types of exercise: the first is direct participation, the second is rational persuasion, and the third is indirect speech – which claims to alert society [8].

When linked to Medicine and scientific developments in this field, issues related to human genetics and the relationship between life and death involved controversial commentaries, ideas, opinions and attitudes both religious as well

as medical or political. If initially the question of "scientific manipulation" [9] was raised, subsequently the aspects related to the benefits brought to Science or those related to the private sphere of the individual were analyzed. In recent years, technology succeeded in bringing back to life persons who were in a vegetative state, supporting the principles of Bioethics from the point of view of professional behaviour. It is therefore necessary to come up with a new dimension of Bioethics, and from this point of view, the pros or cons invite to debates on this topic.

The religious factor, regardless of whether it can be seen as an integral part of morality or just as respect for life, involves primarily interpreting the way in which the individual relates to divinity. Although in Psychology moral consciousness represents the super-ego, that inner dimension, the supreme judge, religious and socio-cultural particularities come forth, due to the sense of belonging or duty. What matters is the fact that, in the case of Medicine, the Hippocratic oath has an extremely powerful impact on the psyche of the future doctor. From this point of view, it is necessary to assess the aspects related to the doctor's behaviour, especially in extreme cases. In general, his decisions will have professional implications, the sense of duty and the respect for the profession stimulating activity; therefore, without a making a clear distinction between moral consciousness, the ethics of duty or oath, the issues relating to the practice of medicine are closely linked to Bioethics. To this end, the field of Politics, in its entirety, has the last word, namely legislation or interpretation of professional acts with regard to the experts' attitude towards life.

4. Bioethics and politics

Bioethics and generally the approach of the philosophy of maintaining and recovering the health [10] need the source of an extrapolating view of this contents. The bioethics-politics relationship has become increasingly controversial since the moment it was acknowledged that the health sector intersects with the field of human rights, of freedoms, and of politics.

Given that theoretical philosophy has yielded in the face of utilitarian thinking and empirical strategies, an attempt was made to adapt the concepts to societal needs, involving in this equation the academic dimensions regarding adjustment and conservation of natural resources, this being the culmination from which the conflicts of a bioethical nature sprang on the political scene, which are most often related to problems of a social nature. Bioethics is considered to be a neutral tool for settling conflicts, so it is necessary to reinterpret and reinvent this field, given that responsibility and protection of the citizen's interests are primordial, regardless of the ideology promoted within political parties. As Weber said, "all States are based on violence", with Mills addition: "politics is a struggle for power; the ultimate form of power is violence" [11]. Analyzing the dimensions of Bioethics, aspects related to political attitude towards justice, rights, freedoms or solidarity are emphasized. It is therefore necessary to conduct a new assessment of deontological concepts

and of the ethic dimension in the public space so as to constitute a civil society in which democratic and participatory aspect should contribute to the construction of an equitable attitude from the point of view of collective development. Taking into account the crises of organizations from the perspective of political ideologies, the concept of bioethics takes two directions: conceptual and thematic, emphasizing the circumstances relating to society and the state apparatus, as well as the existing connections between them. Therefore, whether we are talking about politics in general or about bio-politics, the role of bioethics implies a theoretical paradox whereby it is necessary to demonstrate the validity and legitimacy of attitudes towards life.

Relative to what emerging technologies suppose, most of the time what is researched is their impact in areas such as economy or society, but they have very rarely been analyzed in relation to politics. Given the fact that they involve knowledge and are based on Science, intellectual capacity must come from the educational system and depend on its resources. It is therefore necessary to create: systems of regional research and development, diversity and flexibility, comparable to the systems of industrialized countries and to satisfy the demand of development of the socio-economic strategy from the transition period to the new society [12]. The assessment of technological determinism involves controlling the pace and direction with regard to scientific and technological policies; as part of the investigation, one needs an addition to or an assessment of the technologies involving the expert public in order to research the *a posteriori* impact of so as to be able to contribute to the programming of emerging technologies.

From the perspective of politics, the relationship Bioethics-behaviour assumed different attitudes, most often the disagreements regarding the promulgation of laws pro or against involving religious values [13]. If initially we talk about moral behaviour, society as a whole promotes issues related to the personal sphere of the individual, the state apparatus being placed in front of the will of the individual to retain absolute control over mentality, behaviour and sexual inclinations. For this reason, life, being considered the supreme value, drew in theoreticians who developed a new ethics in relation to medical or biological investigations. Therefore, bioethical arguments imply an approach that takes into account the two sides of this issue: on one hand we are talking about what life means, and on the other hand about the process of death; these issues require a conceptual reformulation, given the fact that they can be addressed from the perspective of Medicine, Philosophy, Law, Theology or Psychology.

The dilemma of the modern world to grant freedom to the individual is oriented towards the interpretation of good, so as to be able to make a clear distinction between the conscious awareness and the life without judgment. In this case, it is a question of maintaining a balance between freedom and responsibility, given the fact that the individual masters his own life. If modern life style involves consequences, the state apparatus gets involved with different attitudes consistent with human evolution. Therefore, we can put forth the

following question: to what extent the laws defend the interests of the individual if the latter is lying in a vegetative state? At this point, the possibility of a moral war involves issues such as the ethics of duty: breaching the rules or observing them? Which is the true dimension of ethics when we talk about conscious and unconscious? To answer this question Teleology determines establishing the degree in which kindness or malice are an integral part of the professional behaviour of the individual, the deontologists establishing whether actions are inherently good or evil. The teleological perspective implies situational ethics and ethical relativism, and from this point of view one can establish *a priori* whether the interpretation of human decisions in certain concrete situations is correct or incorrect.

5. Theoretical dimensions and aspects of Technoethics

Etymologically, technoethics supposes uniting the two concepts, namely technology and ethics, which combines the moral dimension of the individual in the sphere of technology. Considered to be a subfield of Applied ethics, this discipline of Philosophy researches the moral implications and the finality of technologies by taking into account the value and relationships that are established between techniques, technology, society and wisdom, given that most of the time their association involves responsibility and the assuming of consequences from the perspective of practice. If at first we talk about an ethics of responsibility, later the sphere of action of the individual involves empirical dimensions of knowledge, the positive use of technologies and their area of intervention involving issues closely related to the criteria of legitimacy. If Jacques Ellul argues that techniques represents the totality of rational methods which tend to reach a maximum efficiency in the development of the sphere of human activity, then the moral obligation of the researcher consists of being aware of the risks and especially assuming them when implementing a new dimension of technology and innovation [14].

In relation to the period of World War II, the analysis of experiments and inventions of that time, assume becoming aware that scientific activities do not always represent transformations beneficial to humanity, and in this case we are talking about destructive practices and consequences, namely atomic bombs and, not least, about experiments conducted on individuals, where the aspects concerning the ethical behaviour of those involved were not taken into account. Paradoxically, scientific knowledge is not limited by ethical aspects; it is for this reason that researchers in the field of technology are concerned with the management, augmentation and promotion of professional activities without taking into account the behaviour and consequences of inventions both from the perspective of society as a whole and from the private sphere of the individual. Therefore, we are talking about the fact that it is not the tools or the technologies that can be considered immoral but the manner in which they are used or abused; the purpose and the means for which they were created gain a new dimension, most of the times the detrimental effects lying above the benefits to society. The

aspects related to the success or failure to comply with ethical requirements as far as technologies are concerned have been debated and analyzed at length; when researching this dimension it is necessary to keep in mind that the values and beliefs of the individual have suffered remarkable transformations over time, involving in this equation the fact that technical development influences behavioural attitudes both from a personal and from a social perspective. As support for the theory he defended, Carl Mitcham highlighted: "to argue that man must be the subject and not the object in technological society involves two aspects: firstly, the ability to direct and orient technology, and secondly, have domination over it" [15].

6. The ethics of new technologies

Over the past few years, new technologies invaded both public and personal spaces, causing changes in the behaviour, preferences and lifestyle exhibited by individuals both in private and in the workplace environment. Using the new technologies involves ethics, wisdom and reason, which are all fundamental dimensions in a knowledge society whose aspects, rules, and principles are integrated in the organizations' framework. Whether we refer to investigation, usage or the effects of technologies, they must be applied in accordance to moral principles and integrity, as institutions require their use to monitor the activities of individuals. From an economical, medical, social or political point of view, the dilemmas related to behaviour elicit experts' attention to the particularities of the individual, so that the individual's involvement in a certain field may determine a just evaluation within the framework of various fields of activity.

The use of emerging technologies, particularly computers and, implicitly, the Internet, raises concerns such as intelligent use, integrity, responsibility, confidentiality, respect or ethical behaviour, so that no part of the individual's life may be prejudiced in any way. Issues concerning intellectual property or individual privacy imply respect, as non-ethical behaviours that tend to damage the individual's image in society require to be addressed both ethically and legally. Therefore, the state apparatus has the obligation to evaluate inadequate behaviours and especially to enforce upon users constraining measures to help prevent such behaviours.

Human dignity involves two aspects: the religious one (which also implies the traditional dimension) and the modern one. Given that values intersect, one must follow both moral and religious aspects, as well as the modern approach of certain dimensions of tradition. As the development of new technologies brings about new challenges, individual changes imply the acceptance of new tools both in education and in society at large. Thus, the extent to which society's development determines the use of the new technologies is a matter that also implies sociological aspects beside the ethical dimension. The possibility to monitor the individual's attitude towards political parties (at least from a political point of view) gives access to a set of information that is vital to

evaluating society's ideological inclinations. Regardless of which domain we happen to discuss, emerging technologies are being increasingly used in all fields, whether it's Medicine, Chemistry, Statistics or Politics. Can we think of technology as a 'necessary evil' or just a tool that helps individuals to evolve both professionally and personally? Aristotle gives us the answer: "Every art and every doctrine […] is thought to aim at some good; and for this reason the good has rightly been declared to be that at which all things aim" [16]. If one were to involve Psychology in this equation, one would say that good in general implies a state particular to the individual that offers an inner sensation of satisfaction to the individual.

7. Technique and values

The social evolution of the individual prospects promotes changes in acceptance of different values. Thereby, the level of gradual alterations is modified in the sequence of principles, such as ethics or aesthetics.

It is emphasized the double bond with the technological field, defined source of socio-cultural values. The technological code is – therefore - applied on every structure of human activity in the great movement of a synchronic evolution on every cognitive structure.

0ne suggestive example consists in the evolution of aesthetic reasons and their connection with the scientific considerations.

8. Automata, beauty and techique

In Theoretical computer science, automata theory is the study of mathematical objects called abstract machines or automata and the computational problems that can be solved using them. *Automata* comes from Greek meaning 'self-acting'. Automata "enter directly, from many points of view, the reign of plastic arts: either as creations of a very refined craftsmanship, or because until very recent times their function remained preponderantly musical or visual, as moving sculptures. Calder's great mobiles that tremble in the spirals of the air just like artificial leaves and trace melodious oriental arabesques in the space of the room are but the final stage of a long evolution that experimented ceaselessly with anthropomorphic and zoomorphic imitations, or realized pyrotechnic fires, by means of natural elements, such as water, that may be the most abstract compositions of the entire Occidental civilization." [17]

This observation creates the premise to a relationship of beauty and technique into the cultural frameworks of European history. Unlike technique, the automata- through their inutility, through the emphasize on ingeniosity, on the refined elaboration in order to obtain stunning effects - integrate in a history of the 'miraculous' technique, of a Wunderkammer of the cultural European history. The artificial, the unusual, the amazing, the taste for surprise - all these characteristics of the mechanisms represent the domesticated miraculous, the

profane miraculous, created by the human, a miraculous that does not frighten, does not imply supernatural forces but astonishes and amuses; it does not have any other role.

Heron of Alexandria (1st century AD) is the author of the book 'Spiralia', the first treaty on the automata whose sole purpose was the creation of surprising effects; they have no practical utility whatsoever (maybe in the Roman theatre, in the 'deus ex machina' scenes, thus aiming for the astonishment and moving of the audience as 'effects'). "Heron undoubtedly interprets these inventions as some curious games" Umberto Eco underlines adding that, to Heron "they are not works of art" [18]. To the antiquity, the miraculous, the playful and the amazing did not represent aesthetic categories nor were they categories of the classical sensibility. The classical art, with the aesthetic based on proportion and harmony, was little impressed with originality (that type of originality that produces feelings of astonishment, of shock, of surprise; the artistic value lies in 'perfection', that is a constant approach to an ideal of proportion and harmony).

In the Middle Ages, where 'mirabilia' was a category of thinking and sensitivity, where the natural miraculous was a constant reality, the artificial miraculous did not surpass the animals and fantastic people that populated the medieval world. Curiosity towards the automata was weighted. Lions or mechanical birds (on which there were many testimonies), present at the royal courts are amazing things, but are described without too much interest in the mechanisms that set them in motion. Liutprand of Cremona (10th century) left a detailed description of the mechanisms from the Byzantine court, whose role is uncertain (maybe in order to transform the encounter with the Byzantine emperor in an extraordinary event, a display of mechanical artifices, thus of the emperor's personal taste for this type of automata and less for power and pomposity). More, In the Middle Ages automata did not arouse any particular enthusiasm and Villard de Honnecourt's moving eagle (Livre de portraiture) is a machinery among others, an automaton beside architectural and sculptural sketches.

In the Renaissance Age the automaton represents a technical and mechanical novelty. Giovanni Fontana, Leonardo da Vinci and many other 'mechanics' of the Renaissance visualize in the technique the power of man and a wide field of manifestation of an interest inexistent until that time. According to Umberto Eco "one can already feel that fluctuation between technique and art that will characterize the mechanics of the Renaissance and those of the Baroque. Gradually, we will witness an explosion of the taste for craftsmanship and for the figure of the maker of mechanisms, its activity being praised by rich illustrations of the books that are its tribute" [18, p. 388]. What does Giovanni Fontana's activity actually consist of? "He designed clocks that were set in motion by water, wind, fire and earth, sand glasses set in action by the element's that flows through them own weight, mobile masks of the devil, projections of a magical lamp, fountains, kites, musical instruments, keys, skeleton keys, war machines, ships, traps, mobile decks, pumps, windmills, moving ladders." [18, p. 388]

The mechanisms are useful, sometimes playful, but belong to the same Renaissance interest for practice, for mathematics. When the mechanism is just ingenious, when it is only a toy that produces wonder, the technique's spirit animates philosophical thinking on the very structure of the universe ('play line' which is based, in a mechanical way, on the transmission of motion). It was only during the Baroque era the automata would express the sensitivity and the ideals of that time – "for the sensitivity of top Baroque the amazing trick and ingenious invention became a criteria of Beauty" [18, p. 390].

Hydraulic automata from the Baroque gardens and the playful mechanism are the two lines that will develop the technique of automata. Regarding this, the study of Eugenio Battisti, 'For an iconology of the automata' (Antirenaissance), is a beautiful landmark. The letter attributed to the philosopher and medieval scientist Roger Bacon is the program for the technique of automata in Renaissance era, but with the commentary of magic devices that can also illustrate the Baroque spirit.

The unusual, the astonishing, the playful - this is what automata means to the Baroque sensitivity. An automatic device or a garden is a Wunderkammer, a place of technical miracles created to be admired. Hydraulic games and automatic theatres are the triumph image of those devices whose ideal are surprise and disconnection. For the Baroque man, that can be art, as long as art represents ingenuity and entertainment. Sometimes, hydraulic games and automata theatres merge into a single show. In Hellbrun, half of the eighteenth century there was a great automaton theatre, with 113 figures (after this the interest for playful automata disappears completely; is the last flamboyant manifestation of a Baroque sensitivity).

Stories about gardens with hydraulic installations, with decorative games, with phonic surprises or violent breakouts of water abound just like the accounts of automata theatres. These automata come all over Europe; not only in Italy and Germany, but also in Spain.

Some automata are a curiosity for ancient. They play a minor role, especially in some theatrical performances. In the Middle Ages, they belong to the category 'mirabilia' - to the miraculous and unusual, to the amazing technical, among amazing people and strange animals. For the Renaissance the automaton is a technical novelty (Leonardo da Vinci created machines, not automata, and never playful automaton). Only in the Baroque era, the automaton theatre and the automatic hydraulic know an unimaginable scale and represent a taste for the artificial, the playful and the strange of an era of contrasts, of entertainment and beauty as ingenuity. From that moment on, the automata will lose their importance and popularity. The new age will set a practical direction for the technique. The fantasy of the Baroque's automaton will set up until some events of the twentieth century art will rise.

9. Conclusions

As a result of the analysis we carried out it is necessary to establish which are the new dimensions of Applied ethics and which are values this discipline promotes. As we stated, life is considered to be the most respected value, the attitudes towards it being not always in accordance with legislation, moral rights and values. In this case, the line delimiting morality from immorality can be considered invisible or impossible to interpret, given that the state apparatus and, implicitly, the political actors cannot ensure equity with regard to the promulgation of laws. Therefore, to which extent does the state interfere in the private life of the individual and to what extent can it decide whether life or death are in accordance with freedom? It can be asserted that this possible conflict is on the verge of being resolved given that in countries such as the Netherlands, the Government has decided that every citizen can master his own life. The traditional dimension of this aspect is highlighted by the fact that in traditional societies one has the right to his own life and to that of the newborn as well.

In the Era of the Emergent Technologies, "in Academe we learn/teach the best methods of information and value management (which could be one of the most stimulating definitions of wisdom itself) *together* with our students (as suggested by the very word *universitas*). From this perspective, we also have to guide our students to be *digitally wise* and to attain *digital wisdom* in such an intimate way as to be able to use the technology and its Digital Tools as an essential part of being human – and so naturally, that as Digital Natives they will not even be aware of it." [19]

In this way we will also learn to be better citizens.

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