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Biotechnology and Bioethics: The Problem of the Sanctity of Life in the Age of Scientific Intervention

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Abstract:
This article addresses the problematic relationship between biotechnology and bioethics in the light of the question of the sanctity of human life, within the context of rapid scientific transformations that have reshaped the boundaries of intervention in living organisms. It seeks to highlight how biotechnological progress has expanded the possibilities of controlling life, while bioethics has emerged as a critical ethical field aimed at evaluating these practices and regulating them according to values. Through an analytical philosophical approach, the article discusses the concept of the sanctity of life as an ethical standard that transcends technical utility and the fluctuations of the human condition, emphasizing the necessity of achieving a balance between scientific capability and moral responsibility, in order to preserve human dignity and the meaning of life in the biotechnological era.
Keywords: Bioethics; Science; Medicine; Ethics; Life

1- INTRODUCTION:

The contemporary world is witnessing an unprecedented acceleration in biotechnological development, which has expanded the possibilities for scientific intervention in human life and opened new horizons for treatment, enhancement, and biological reconfiguration. In the face of this reality, bioethics has emerged as an ethical field that seeks to accompany this progress and question its limits, especially when scientific practices touch the essence of life and human dignity. However, this overlap between the logic of both technology and values has raised anew the concept of the sanctity of human life within a changing context in which the boundaries between what is scientifically permissible and what is ethically allowable are no longer sufficiently clear.

Hence, the following problem emerges:

To what extent can biotechnological development continue without leading to an infringement on the sanctity of human life, and what role does bioethics play in regulating this balance between scientific progress and moral responsibility?

2- Bioethics as a Historical Response to the Shaking of Moral Meaning

A researcher cannot address any intellectual project (theoretical or applied) without returning to its earliest origins that led to its formation and realization in practice. The project of applied ethics is among the most important intellectual projects that have stimulated the minds of researchers, thinkers, jurists, legal professionals, and religious figures, given the intellectual

debates it carries concerning the latest scientific research and its effects on the human being and the world. Bioethics is considered one of its significant fields. If we return to the history of the term "bioethics," in English it refers to "bioéthique," and it was first used in 1970 by the American cancer researcher Van Rensselaer Potter[1], in an article entitled "Bioethics: Science of Survival." Nevertheless, bioethics, as a field of thought, had emerged in 1945 during the Nuremberg trials tasked with prosecuting Nazi medical experiments. This field arose in connection with developments in the use of technology in our era and in various domains, reaching the point of influencing human life itself-meaning producing it and reproducing it. Medical technologies became capable of facilitating death and perhaps even killing a human being under the label of euthanasia[2], among other designations that arouse the indignation of many because of the blatant violations they have produced against the human being and the environment.

Accordingly, bioethics is precisely connected to professional ethics within the medical milieu. It is an ethical philosophy applied to the biological medical sciences. The term (bioethics) is a compound of two parts: "bio," meaning "life," and "ethics," meaning "morals." It emerged to propose a new field of research[3] that concerned society as a whole. Thinking about the ethics of science was a result of advances in biology such as artificial reproduction, genetic engineering, and cloning, because these are matters that raised many ethical issues[4]. It is concerned with the ethical aspect in the applied domain of life, studying the outcomes reached by scientific research from a moral value perspective, questioning and examining the consequences we have arrived at-blatant transgressions and violations committed in the name of scientific progress against the human being.

Bioethics opened the door to the "ethicalization" of many fields that likewise witnessed unprecedented slips outside all commonly recognized norms, under labels and flimsy justifications that are worth nothing in the face of human dignity, such as biopolitics and biopower, bioeducation, and "bio" in all professions. The subject thus became a set of challenges that philosophical thought works on in order to free the human being from all constraints and transgressions that affect privacy and one's world. The principle of human dignity is a more appropriate expression of this bioethical indicator, namely the autonomy of the person. The foundation of the principle of humane treatment proceeds from "the human being's first right: to be recognized as a human being, and for science not to treat the human self as a 'thing.'" It follows that human dignity requires respecting the individual in privacy, in genetic, and in cultural identity as well. This is reflected at the legal level in the idea that the other must be viewed and respected in two senses: that the other is different and this difference must be respected, and that the other represents the human self [5].

1- Khadija Ztili and a group of researchers, Applied Ethics: "The Debate of Values and the Contemporary Contexts of Science," Lebanon, 1st edition, 2015, p. 120.
2- Ibid.
3- Khadija Ztili and a group of researchers, Op. Cit, p. 120.
4- Jean-François Dortier, Dictionary of the Human Sciences, trans. George Kattoura, Dar Al-Kalima, Abu Dhabi, 4th edition, 2009, p. 29.
5- Al-Misbahi, Mohammed, Philosophy of Right: Kant and Contemporary Philosophy, Rabat: Faculty of Letters and Human Sciences, Rabat, 2007, p. 248.

In the light of the three scientific revolutions concerning matter, life, and mind-namely: the physical revolutions (the quantum), the biological revolution (the genome), and the computer revolution (intelligence)-and their alliances established to provide more discoveries and expected results according to a timetable set by theorists and researchers themselves during this century, by defining precise milestones beginning from the start of the third millennium up to 2020, then another phase up to 2050, and finally the period extending from the middle of this century to its end, what will most distinguish these phases is the progress that will occur in uncovering the genetic map, its computerization, and control over the genome, which will have profound meanings in medicine and biology [6].

It is true that what we are witnessing today is a decisive epistemological turning point in the field of science, especially in the medical and biological aspect, but it is no longer merely a neutral technical achievement; rather, it has become a power capable of intervening in and deeply controlling human life. This intervention generates new ethical problems, because science has come to control the body, life, and destiny in a way that is not logically sound, which calls for an ethical framework that regulates and corrects this scientific greed that has come to pay no attention to any moral norms.

Looking at scientific and technological progress should not be limited to its positive side only; it should be accompanied by an ethical awareness that regulates it. Science, when it breaks away from values, becomes a threat to the human being instead of serving him. From this point, bioethics emerges as a distinct intellectual field that brings together multiple specializations and is concerned with questioning scientific practices in the light of the effects they leave on the human being and the environment. The philosopher today is urgently required to enter all domains and fields of science and technology, and to address the ethical and ontological problems that are posed during their processes and rapid advancement[7].

Bioethics, as some thinkers conceive it, is not reduced to being a set of ready-made rules or laws; rather, it is understood as a guiding wisdom that directs the use of scientific knowledge for the benefit of the human being and society. The growing interest in applied ethics led to the emergence of professional charters aimed at regulating biological and medical practices-charters that approach duty ethics-yet they remain a subject of debate and criticism.

The problem lies in the fact that these approaches may sometimes be unable to deal with the complexities of living reality, especially when they turn into an attempt to impose ethics in a rigid normative way, which is expressed as the ethicalization of life. Therefore, the existence of a unified or absolute bioethics is questioned, and it is instead viewed as an open field for dialogue between philosophy and the various sciences, changing as scientific and technological contexts change and we reform them.

Ethical inquiry is an open inquiry that includes all specializations and opinions in their diversity. Philosophy expresses its stance through the views that philosophers present. Thus, the function of the philosopher and his task is to question scientific and medical action not in

6- Mohammed Jdeidi, Bioethics and the Stakes of the Coming Philosophy, Mominoun Bila Hodoud, 10/05/2016, p. 4.

7- Dahdouh Rachid, Epistemology of the Medical and Biological Sciences in Georges Canguilhem, Ibn Nadim for Publishing and Distribution, Oran, Algeria, 2013, p. 540.

terms of the results it has reached and the achievements it has realized, but in terms of the fact that it violates the other and goes beyond the bounds of what is reasonable. Therefore, philosophy works to link scientific progress to values and to restore consideration to the human being as an end and not a means. For this reason, philosophy has adopted the critical method, as well as dialectic and analysis, to reveal what lies behind appearances and to establish arguments that show the truths of matters. All of this is to reformulate and build ethical standards that protect the sanctity of human life and reconcile between what is scientifically possible and what ought to be ethically required, so that there is a balanced scientific research that aims to serve the human being rather than exploit him.

3- The Problem of the Meaning of Life: From Historical Experience to Philosophical Reflection and the Religious Vision:

The meaning of life is no longer raised as a natural fact in the light of contemporary scientific progress; rather, it has become a value issue that requires thinking about its meaning and the limits of how to deal with it. Science is no longer neutral toward life; it has become an effective force that intervenes in its emergence, continuity, and end, by virtue of the control it possesses. The meaning of life has multiplied and differed according to the requirements of each era. From this point, we raise the following question: How was the meaning of life historically formed, how was it understood philosophically, and how was it founded religiously, in the light of contemporary scientific progress and the bioethical problems it raises?

3.1- Historical Experience:

The reason for the emergence of the topic of the sanctity of life within bioethics is a response to the transformations produced by scientific progress in understanding life and dealing with it, since medical biological technology raises a set of ethical questions that require philosophical analysis in order to answer them. These questions are of such importance that moral, religious, and legal judgments related to topics such as “fertilization technology,” “genetic engineering,” and “biological cloning” depend on their answers. The circle has expanded to touch one of the strongholds that religion used to defend, namely reproduction, which has turned into a technological process, as some believe, after having been one hundred percent human. The important point is that the issue is no longer confined to religious scholars; it has entered the sphere of law and legislation, the halls of parliaments, and the offices of politicians who have found themselves before a philosophical moral dilemma. This has pushed them to present the problem to society as a whole, drawing on philosophers, religious scholars, legal experts, and others from sociology and psychology. At the outset, we need to know the intended meaning of the word “sanctity [8].” Understanding the meaning of the sanctity of life is a basic condition for regulating human action, and it represents a moral awareness that establishes human responsibility toward oneself and toward others. Accordingly, understanding the sanctity of life guides individual and collective choices and makes respect for it a criterion for judging scientific progress to the extent that it serves the human being and does not undermine human dignity.

8- Nahidah Al-Baqsami, Genetic Engineering and Ethics, Kuwait, no edition stated, 1978, pp. 39-94.

The concept of the sanctity of life is a concept with religious origins, whose roots go back to ancient religions that took an interest in the human being and enacted laws to serve him. It was viewed as a form of perfection, such that the human being was sometimes sanctified, and at other times considered a son of gods. Peoples often drew an image of gods derived from the image of the human being: he possesses extraordinary intelligence, a language that helps him communicate, and an ability to analyze, connect, and abstract. In addition, he does not accept things as they are, but tries to change the surrounding environment. Finally, he possesses a civilization that none of the other beings on earth possesses. All these abilities and advantages made him feel that the surrounding universe was made subservient for his sake, and that he is an important being with a special status before gods. As for the contemporary meaning of the concept of the sanctity of life, it appeared with the emergence of the revealed religions, which gave the human being great importance. Above all, they affirm that life is made by God, and that He bestowed it upon us; therefore, we have no authority over it. It is a gift from God, and we are obliged to preserve it. This sanctity comes from the fact that we were created in the image of God [9].

Thus, the meaning of the sanctity of life has religious roots, as it was connected from the beginning to the image of the human being as formed in religious texts, which consider life a supreme value that cannot be reduced. The human being, endowed with reason and the ability to discern and influence his surroundings, acquired a special status among living beings. However, this distinction does not justify absolute control over life, because it is a divine gift that must be safeguarded, and the value of the human being lies in the fact that he was created in the image of God, while his actions are constrained by clear moral limits.

3.2- Philosophical Reflection:

From its earliest beginnings, philosophy has considered human life not as a fleeting given, but as a focus for its reflections and questions. It has been preoccupied with the question of existence and its meaning, and with the value of the human being and his place in the universe. Thus, philosophy regarded human life as the foundation of every rational and moral practice, and as a starting point for thinking about goodness, justice, and dignity. This reflects a deep concern with safeguarding the human being and his life.

In the Greek period, the aim was to create a good or virtuous citizen. Accordingly, philosophers sought to set molds into which the ethics of the virtuous person would be cast as they conceived them at that time. The human being himself was composed of body and soul: the body was the animal side, while the soul was the sacred side. Hence, the problem was to make the soul the one that controls, leads, and overpowers all the impulses of the body. For this reason, philosophers such as Plato, in the Phaedo, held that the philosopher welcomes death because it frees him from the body. Greek society itself was divided according to this division: body and soul. Those who represented the body were the slaves, who were generally the common people, while the masters were those who worked with their minds, engaged in thought, and concerned themselves with matters of the soul in general. Despite the Greek philosophers' study of what

9- Nahidah Al-Baqsami, Op. Cie, pp. 94-95.

a human being ought to do, his sanctity and liberation were among the last things they were thinking about [10].

The Greek conception of the human being was as body and soul, where the former was viewed as a source of desires and conflict, while the latter was regarded as the seat of reason and virtue. From this division arose a Greek ethical understanding that considered disciplining the self and giving precedence to reason a condition for achieving justice and goodness. Therefore, philosophical thought focused on cultivating the soul and liberating it from the dominance of the body, as the foundation of the virtuous life and human dignity.

As for the Middle Ages, most of its thinkers and philosophers examined philosophical matters through Christian doctrine and religion; and hence, they defined the human being's relationship to himself and to what surrounds him through his relationship with God. They sought to suppress human nature, separate the human being from his human self, entrench his alienation from it, scatter his powers, restrain his aspirations, and consecrate his dependence. All of this was because they regarded this nature as corrupt and scattered, in need of correction and control. This sense of sin continued to accompany the human being and the philosophers who studied him until the modern era, whose philosophers were concerned with freeing the human being from a sense of guilt for a sin he did not commit, namely the sin of Adam and Eve. Philosophers of the Renaissance and the modern era sought to break the constraints that Christianity imposed on human thought and behavior[11]. It imposed commandments in all their forms and considered the human being deficient, while religious figures appointed themselves as God's successors on earth and guardians over him, and required him to submit to everything they dictated without thinking. Then, the modern era came to unsettle and shake the hollow intellectual fortresses of the Middle Ages and its men, and to present a new view of the human being as an end in himself and not merely a means.

Philosophers' views on the sanctity of life have varied with the diversity of their ontological and ethical starting points. Life is not understood by them as a single fixed value, but as a given whose significance is acquired from the intellectual framework in which it is grounded. Some philosophers view the sanctity of life as an absolute value rooted in the human being's inherent dignity, making life an end that must not be turned into a means. Here we mention some different positions regarding life:

Life as a Value in Itself:

The proponents of this view say that the true meaning of the sanctity of life is our appreciation and respect for it because it is too precious to be wasted. This includes all forms of human life, including the life of the fetus, and even the life of a person in a permanent coma with no hope of awakening from it. We can say that the proponents of this view reject the termination of life regardless of the reasons. They say: wherever there is life, intervening to stop it is contrary to its sanctity.

3.2.1- The Sanctity of Life in the Face of the Criterion of Quality of Life:

10- Nahidah Al-Baqsami, Op. Cie, p. 97.
11- Ibid, p. 98.

Some attribute this position to the fact that Western society no longer believes in the sanctity of life; therefore, in judging an individual's life it relies on the idea that a person can live if his life is worth that. This means that people who are incapable, such as the elderly and persons with disabilities, do not deserve attention and care as much as those who are active and productive in society[12]. This trend linked the value of life to its quality, not merely to its biological existence. Life is considered worthy of respect to the extent that conditions such as consciousness, independence, and the ability to act and produce are present. Therefore, proponents of this view see that some situations, such as severe incapacity or illness that deprives a person of these foundations, may make life undeserving of continuation, which ethically opens the door to rejecting the principle of absolute sanctity of life.

After presenting the positions that addressed life from multiple angles, it becomes clear that the differences among them are due not only to their conclusions, but to the conception from which each begins in understanding the meaning of life itself. Life is not grasped in the light of its incidental states, nor is it understood through its roles or its changing conditions; rather, it is presented as a human given prior to every description. From this standpoint, another conception of the sanctity of life emerges, one that is not based on an external judgment or a situational criterion, but on considering it an original meaning that accompanies human existence in all its states and makes preserving it a duty that does not depend on conditions or contexts. We attempt to define the concept of the sanctity of life through what we have discussed under the following title:

3.2.2- The Sanctity of Life: A Conceptual Philosophical Approach:

By this concept is meant that life, in itself, is a property connected to the human being and his existence, meaning that life is a necessary condition for other values related to human existence. It is clear that life comes before the realization of any experience, response, or human achievement. It exists before everything. However, the concept of the sanctity of life returns us to a specific religious meaning that not everyone accepts. As we said, we need a comprehensive definition that most people can agree upon. There is another reason that leads us to not accept this concept: if "the sanctity of life" were a property that distinguishes life, and life is an essential element that "precedes any human behavior," then we are, without doubt, compelled to "manufacture" life as much as possible, either through reproduction or through genetic engineering and biological cloning, and all possible means of producing humans. But many will not be enthusiastic about this view. What matters here is that this concept has placed us at the beginning of the road to reaching what we want, since "the sanctity of life" does not tell us what we must do in terms of reproduction and fabrication, but rather seems to tell us what we must not do: do not kill [13].

Life is neither measured by its functional value nor reduced to the changing conditions of human existence. Rather, it stands as a moral value prior to any evaluation. Therefore, the human being, whatever his condition or fate, does not possess the authority to end life or negate it, because this authority exceeds the bounds of moral legitimacy. Life is not an object of

12- Nahidah Al-Baqsami, Op. Cie, pp. 102-104.
13- Nahidah Al-Baqsami, Op. Cie, p. 104.

utilitarian choice; it is the condition of possibility for every choice, and what is such must not be subjected to the logic of cancellation or termination.

3.3- The Religious Vision:

The concept of the "sanctity of life" goes back to religious roots. This meaning is also implicitly present in the Hippocratic Oath: "I will not give any deadly medicine to anyone who asks me for it, nor will I suggest its use; likewise, I will not give any woman a therapeutic abortion." In these two statements there is a clear sanctification of human life, which ought to continue and which the physician should preserve to the best of his ability. The revealed religions strongly supported this, and therefore the physician's responsibility requires that he preserves life, and he has no right to dispose of it. Although the meaning of the sanctity of life may vary, whether from the historical perspective or in philosophical thought, it may appear different, but in its essence and origin it is one and the same: it is a product of religious thought, which was the first to treat it with sanctification, as a supreme value and an existential given with profound moral significance [14].

All religions, despite their differences-whether revealed (Judaism, Christianity, and Islam) or non-revealed (such as Buddhism and Confucianism)-have agreed on sanctifying human life and that it must not be tampered with, and that preserving it is a supreme religious duty. Because it has an absolute value, it is not permissible to end it or violate it except according to strict doctrinal constraints.

4- The Sanctity of Life as an Ethical Standard That Transcends the Fluctuations of the Human Condition

The sanctity of life is often raised at the level of human feeling, where it appears in compassion, sympathy, and aversion to anything that affects human existence. We sanctify life because our feelings toward it are tinged with sanctification and respect, and therefore we feel reverence and awe because we are alive. This meaning is very far from the intended meaning of sanctification, for the following reasons[15]:

- "Sanctity" seems to be a more objective concept than to be tied to our feeling toward life, no matter how profound that feeling is.
- The concept of the "sanctity of life" can help us issue our moral judgments and fulfill our commitments and duties, but this cannot be achieved merely through our feeling of the sanctity of life.

This does not mean that we should not feel anything toward life; rather, we cannot rely on feeling alone. Likewise, if we find that life arouses in us a feeling of happiness, this does not mean that we must preserve it in any way whatsoever, or that we must never allow life to cease, whether our own life or the lives of others[16].

The sanctity of life is not merely an internal feeling, but an ethical value that is embodied in human conduct. The feeling of the loftiness of life gives it meaning, yet this meaning remains incomplete unless it becomes a practical commitment that governs a person's actions and

14- Ibid, p. 101.
15- Nahidah Al-Baqsami, Op. Cie, p. 104.
16- Ibid, pp. 104-105.

choices. Therefore, the sanctity of life is understood philosophically as a value principle that links awareness of value with the moral duty to respect and safeguard life.

The question of ethics and the slipping, fragile human being, or the one who lives in a state of moral weakness, raises a profound philosophical problem, represented in the tension between the values a person proclaims and the practices he embodies in reality. Such a person does not deny ethics, but deviates from it when self-monitoring is absent and awareness of responsibility weakens, so that slipping turns from a passing act into a troubling value condition.

If many moral philosophers have conceived ethics as a normative science that defines virtuous conduct and what ought to be, then a practical philosophy must be added that opens before the human being the kingdom of values, and that the moral life imposes on the human being participation in the fullness of life and acceptance of everything that has significance, and openness to everything that contains values[17].

The modern human being is anxious and reckless and has even become an indifferent being: nothing inspires him, and nothing moves the hidden depths of his inner existence. He no longer senses any wonder, amazement, enthusiasm, or any reverence. He has come to slip across the surfaces of things without noticing his inner emptiness. The task of the moral philosopher is to take the hand of that slipping person so that he may recover that moral sense, see values, grasp meanings, and feel beauty[18].

The true mission of ethics is to transform the world from the purely natural level to the true axiological level. This means that ethics undertakes the task of contributing to awakening the human being's sense of values, just as the arts awaken souls to see the beauty that is within us and around us but that we do not see because of familiarity and habit, and because it flows with us in the current. Human beings feel only what is opposite to them on the path, and what is opposite is ugly; thus he sees only ugliness and does only ugliness until he becomes ugly[19].

Ethics is not merely external commands, but awareness and responsibility manifested in conduct. Slipping occurs when the human being loses the value compass that guides his actions, so he shifts from a conscious moral being into a being governed by habit or utility. Hence, the task of ethics becomes to redirect human action toward meaning, and to make values a standard for conduct, so that the humanity of the human being is realized as a being capable of choice and commitment, not merely an agent carried along by circumstances.

Ethics is not a neutral description of reality, but a value standard that directs human action and gives it meaning. A person may slip when his conduct becomes detached from values, so that his action becomes a mere automatic response to need or utility. Accordingly, ethics appears as an alert awareness that reconnects the human being to himself and transforms action from a passing event into a responsible practice in which human fullness is realized through free choice and commitment to values.

Ethics and the slipping human being can be understood philosophically as a relationship of tension between values and conduct. The slipping human being is the one who understands

17- Mostafa Al-Nashar, Applied Philosophy, Al-Dar Al-Masriyya Al-Saoudiyya, Egypt, no edition stated, 2005, p. 306.
18- Mostafa Al-Nashar, Op. Cit, p. 306.
19- Ibid, p. 307.

moral values theoretically, but fails to translate them into practice under the pressure of interest, desire, or circumstances. Here, ethics appears not as abstract knowledge, but as a force of regulation and resistance to deviation, aiming to return the human being to the path of responsible action and to preserve his humanity from value collapse.

Overcoming the condition of the slipping human being is achieved only by restoring ethics as a practical commitment rather than a theoretical discourse. When the human being regains awareness of himself as a free and responsible being, ethics is transformed from imposed constraints into a conscious choice, and it becomes a means of safeguarding human dignity and protecting the moral meaning of life`.

5- Transformations of the Concept of Life and Its Sanctity Between the Abortion Debate and the Horizons of the Human Being Modified by Nanotechnology:

The concept of human life is no longer fixed as traditional moral, religious, and philosophical frameworks conceived it; rather, it has come to undergo a profound transformation due to intellectual conflicts and scientific developments. Between currents that view abortion as an expression of freedom of choice and other currents that regard it as a violation of the inviolability of life from its very beginning, the classical conception of the sanctity of life as an absolute value is destabilized. In contrast, nanotechnology opens unprecedented horizons for intervening in the human biological structure, where the aim is no longer merely to treat disease, but to reshape the body, enhance its capacities, and perhaps reduce its need for medicines or compensate for some of its vital functions through precise industrial technologies. In the face of this transformation, philosophical thought is confronted with a new existential question: How can the sanctity of human life be reconciled with the requirements of ethics in the light of the abortion debate and nanotechnology interventions?

If the middle of the nineteenth century and the beginnings of the twentieth century were called the age of physics, then the scientific evidence that has appeared in the last thirty years indicates that we will enter a new age, which some researchers predicted would be the “age of biology.” Although the scientific effort exerted in biology at the beginning of the twentieth century was less than that exerted in physics, which was able to create a scientific and intellectual revolution during that century, biology promises discoveries more important and more dangerous than those reached by physics, not only because of the impact of these discoveries on our lives through the development of medicine and the creation of a new science in the field of nutrition, but also because of their impact on our attitudes and opinions about the nature of life[20]. Lalande, in his philosophical dictionary, defined it as a term invented by Lamarck to denote the science of living organisms, that is, botany and zoology in terms of subject matter, and the science of morphology and functions, with all their branches, in terms of problems[21].

5.1- Abortion in the Balance of Ethics and the Sanctity of Life:

In 1967, abortion was an illegal act everywhere except in Sweden and Denmark. After that, England changed its law to allow abortion on social grounds, and New York followed in 1970.

20- Mostafa Al-Nashar, Op. Cit, p. 350.

21- Lalande, André, Lalande Philosophical Encyclopedia, vol. 1, entry “Biology,” trans. Ahmad Khalil, Oueidat Publications, Lebanon, no edition stated, 2001, p. 136.

This matter reached its peak in 1973, when the Supreme Court in the United States declared that a woman has the right to abortion during the first six months. The problem of abortion in our contemporary Arab world is still surrounded by strict laws that prohibit it, except in the case where the mother's life is exposed to danger, as jurists have determined[22].

Nevertheless, every day there are approximately 150,000 people who do not want pregnancy daily, or about 53 million in the world who undergo abortions. There are those who reject abortion under any circumstances for religious reasons or other reasons, and they are prepared to bear any consequences of this position, and prepared to spread their call more comprehensively. In democratic countries, they can strengthen their reasons through law, but they cannot make their viewpoint an exception so that it forms a legal foundation[23].

Liberals take a different position, for they do not see that the fetus has a right comparable to the mother's right to decide and control her body. Under such circumstances, the mother can end her pregnancy under appropriate medical care and supervision accompanying the abortion procedure. Utilitarians try to prove that the decision about abortion depends on the best outcome for the happiness of the family. From this standpoint, they endorse ending the life of a disabled fetus, but difficulties confront us in measuring and assessing the degree of disability in the fetus and the quality and nature of life. It is clear, then, that abortion raises several moral and philosophical problems: Is the fetus a person who has the same moral rights as mature human beings? Is aborting the fetus morally permissible? Or is abortion morally permissible under certain circumstances? When can the mother and other members of society override the rights of the fetus?

The first moral axis raised by abortion makes us ask: Is the fetus a human being who has the same moral rights[24] that human beings possess? This leads us to examine the multiple positions regarding this matter. The fetus as a person between rejection and acceptance:

The basic problem at this point is the attempt to establish the fetus's right to life on the basis of proving that it is a person who enjoys moral rights, and this is the position of opponents of abortion. Nevertheless, there are those who try to prove that the fetus is not a person or a human being, and therefore aborting it is not killing.

Here is Michael Tooley, the moral philosopher, asking about the traits that must be present in something for us to consider it a person, that is, for it to have a right to life, saying: "The claim I defend is that a living being has a right to life only if it has a conception of itself as a self-continuing through experiences and other mental processes, believing that its self is a continuing entity[25]."

Michael Tooley's view of the concept of life is a reductionist view, as he linked the right to life to a human being's possession of certain mental characteristics, such as self-awareness and the ability and desire to continue living. According to this conception, life in itself is not sacred in an absolute sense; rather, it acquires its moral value from the capacities carried by the living being, which opens the door wide to justifying the crime of abortion, and even ending the lives

22- Lalande, André, Op. Cit, p. 491.
23- Mostafa Al-Nashar, Op. Cit, p. 491.
24- Ibid, p. 493.
25- Ibid.

of people who do not possess the conditions they set. According to our view, built upon Michael's view, even he likewise would not deserve to live.

On the basis of the principle of the sanctity of human life, it can be affirmed that abortion does not acquire any moral legitimacy except in the most extreme emergency cases in which a life is set against a life, where intervention is then the prevention of a greater harm, not a choice between equivalent alternatives. Outside this framework, abortion cannot be justified under any pretext whatsoever, whether economic, social, psychological, circumstantial, or otherwise, because these considerations, no matter how severe, do not rise to the level of canceling an inherent right to life. Even in tragic cases such as rape, the human soul remains innocent in itself, independent of the circumstances of its origin or the attributes attached to it, and it is not morally permissible to burden it with the consequences of an act it did not commit. Accordingly, ending human life cannot be justified by religious law, by civil law, or by utilitarian reasoning, as long as life in itself is an absolute value, and no one has the right to dispose of it or end it.

What we witness today of ending human lives, whether fetuses or non-fetuses, under multiple labels is a clear assault on others and an exercise of power and authority to strip away a human right (life) without justification. Living examples in reality are the best evidence, especially what we witness of moral decline in wars and the use of internationally prohibited weapons under flimsy pretexts. This is what has driven us today to shed light on the various human violations committed by one human being against another, as he has come to employ scientific innovations that, as he claims, were found to serve humanity, in order to destroy it, and to intervene in nature in a way that sounds the alarm for everyone that we live in a danger that cannot be overlooked. The reason is that he has no limits or controls to comply with. For this reason, bioethics came to revive the moral value dimension in the applied sciences and direct it onto the sound path. It works to bring about rules and controls for scientific research in biology, and we do not have the right to carry out an experimental work, especially a research work, on a person without his consent[26].

5.2- Technological Singularity and Nanotechnology: The Human Being between Enhancement and Existential Threat:

The rapid development in the fields of artificial intelligence and digital technologies has produced the concept of the technological singularity as one of the most controversial concepts in contemporary thought, because it carries great promises and profound warnings at the same time. Singularity refers to a potential stage in which artificial intelligence reaches a level that surpasses human capabilities, leading to a radical transformation in patterns of thinking, work, and human life itself. In this context, singularity is not presented as mere technical progress, but as a philosophical turning point that re-raises fundamental questions about human identity, the limits of reason, and the meaning of control and responsibility in a world led by algorithms. The possibility of singularity occurring is based primarily on the hypothesis that human beings will succeed in creating a rational machine smarter than humans. At present, the existence of

26- Al-Waeli, Amer Abd Zaid Al-Waeli, Ethical Theory, Ibn Al-Nadim for Publishing, no edition stated, Beirut, 2015, p. 258.

such a machine remains in question, but if it becomes possible one day to build an "intelligent" computer, then the joint work of computer networks and their human users could lead to the creation of a "superintelligence" capable of improving the natural human mind as well.

The technologies that can play an important role in singularity are diverse. Artificial intelligence comes first, of course, but nanotechnology will increasingly occupy a prominent place in futurists' expectations, because of the capabilities possessed by the "nanorobot" [27].

The spread of nanotechnology has changed the concept of the human being and life after it moved scientific intervention from the level of the apparent and the general to the depths of the fine structure of the living organism. The human being has become an object of shaping and recalibration, not merely a being to be understood and treated. This shift has destabilized traditional conceptions about the limits of the body, the meaning of life, and the value of the human being, since life is no longer seen only as a natural given, but as an open field for modification and enhancement. This raises ethical and philosophical problems concerning human dignity, scientific responsibility, and the limits of legitimacy in intervening in the very core of human existence.

Singularity is a reconsideration of what the main challenge will be in our ideas about human nature and the redrawing of human institutions, in a more information-centered language. It is a matter of moving from version 1.0 of the human being to version 2.0. The actors in this transformation will be microscopic robots, or "nanorobots." Nanoscopic robots will spread through our veins and arteries, purifying the blood by adding missing elements and eliminating toxins and pathogens. Nanorobots will also be connected to the biological nerve cells of our brains, able to control our senses and emotions and make us immerse completely in virtual reality[28]. These "nanorobots," above all, will increase the capacities of our memory and will also form our non-biological intelligence. As for our minds, by connecting them to the internet, they will become capable of exchanging new kinds of knowledge and abilities. The task of work will be to create any type of knowledge and share it, and thus the boundaries between work and play will be erased[29].

The singularity body is presented as a "liberated" body, freed from natural constraints. Kurzweil sees that the same process that freed sexual activity from reproduction in the industrial world by valuing the communicative and sensory side of this activity will extend to other vital functions of the future body related to sociability, companionship, and sensory pleasures. At a higher technological level, "traditional" foods will become merely a simple cultural and sensory experience, since we will be able to avoid ingesting "harmful" nutrients and let nanorobots carry out the task of eliminating excess substances. Nanorobots will also be able to enter our bodies and leave them easily and to find nutrients in the environment. Kurzweil expects that the human being in version 2.0 will be more independent and much stronger than the machine[30].

27- François Jacob and others, trans. Mohammed Aslim, The Human Being in the Grip of Technology: From the Human Being to the Post-Human, Bilal Printing Press, Medina, no edition stated, no date stated, pp. 58–59.
28- Ibid, pp. 59–60.
29- François Jacob and others, Op. Cit, P. 60.
30- Ibid, p. 61.

Robert Freitas's visionary work proposes an alternative to the circulatory system and its distributive functions. He favors precise nanorobots, artificial red blood cells, and "microbe eaters." We will not need a heart or lungs, because those robots will be able to move inside the body through a complex system, the "vasculoid." Thus, there will be no need then for blood vessels or the heart either, and there will be no need for lungs because artificial red blood cells will provide the necessary oxygen and eliminate carbon dioxide. Hormones will be provided by nanorobots subject to intelligent biological regulation systems (biological feedback). Freitas expects that by the year 2030, we will have got rid of most of our organs and cells: we will retain a brain, a skeleton, skin, reproductive organs, and sensory organs, such as the mouth and the upper part of the esophagus. Nanotechnology and new precision devices will improve the body or transform it so that the skeleton becomes stronger and more resistant, repairs itself, and the skin becomes a more resistant material with a greater ability to withstand cold and heat[31].

A body modified in this way may not die, or at least may not die very early. Technological interpenetration will grant us many means of preventing the aging of our body. While awaiting the arrival of that singularity, we will remain required to maintain the quality of our health and control the functions of this physiological body through medicines and nutritional supplements and the practice of physical activities. As the Swiss anthropologist Daniela Sergi, who conducts ethnological field research in collaboration with Kevin Warwick and Terry Grossman on the making of the post-human by contemporary technologies in the cybernetics department at the University of Reading, says: designers (engineers, scientists, and physicians) have always had ideas about who human beings are (the descriptive aspect) and what they are supposed to be (the normative aspect). However, the technologies of the twentieth and twenty-first centuries have increasingly approached the body, and as Kurzweil said, at the level of their development and their ability to hybridize with the body, they have contributed to reconsidering the basic principles on which the distinction between the human being and others is based. It seems that a new definition of humanity wants to impose itself under the influence of a technology that merges into the most intimate levels of the human body, and thus it acquires a status similar to nature[32].

Technology, in its extreme form represented by the technological singularity, has pushed the course of the human mind beyond its reasonable limits, where progress is no longer merely an expansion of human possibilities, but has become an endeavor to transcend human nature itself. In this horizon, technology is no longer subject to the principle of human need or utility; it has become a force that redraws the features of the human being and imposes its own logic: the logic of speed, efficiency, and continuous transcendence. Here, the true threat begins, not when technology fails, but when it succeeds to a degree that exceeds the human being's capacity to grasp its results and control its directions.

This transformation has not affected the image of the human being alone; it has reached the very concept of life itself. Life is no longer understood as a natural given that carries value in

31- Ibid, p. 63.
32- François Jacob and others, pp. 63-67.

itself, but as a field that can be modified, enhanced, and replaced. With the change in the concept of life, the meaning of its sanctity necessarily changes: sanctity loses its absolute character and becomes a relative value measured by usefulness, efficiency, and technical possibility. Thus, sanctity shifts from being an ethical boundary that must not be touched to a concept that can be redefined according to the conditions of science and technology.

In the face of this situation, the ethical question emerges as a necessity, not an intellectual luxury: How can the relationship between the human being and technology be recalibrated in a way that preserves the meaning and limits of human nature? What is required today is neither resisting progress nor throwing oneself into its embrace without questioning, but building a critical philosophical awareness that reestablishes the concept of life on value-based foundations and gives sanctity its meaning as the protection of the human being, not an obstacle to his development. Technology, no matter how powerful it becomes, remains without meaning if it is not directed by an ethical reason that recognizes that some limits are not a deficiency, but a condition of our humanity itself.

6- Between Scientific Progress and Moral Commitment: A Study in the Logic of Balance:

People do not need a scientific background to realize the impact of science on their lives. We see that most presidents and members of parliament are not technologically specialized, and yet they bear the responsibility of making decisive decisions that do not concern only present affairs, but also concern determining the fate of millions of human beings in the future. Citizens' lack of what is called scientific literacy is not sufficient justification to deprive them of participating in making decisions related to the consequences of scientific development, at least in their capacity as voters, investors, or even consumers[33].

Applying scientific knowledge obviously requires some ability to judge values. After we reach, for example, knowledge of how to produce dynamite and understand its properties, we still must answer the following question: Do we drop dynamite from airplanes to destroy museums, mosques, churches, and cities, or do we resort to using it to carve roads through mountains? The same applies when we know the effects of certain drugs and gases: we still must decide whether we will use them to relieve pain and prevent diseases, or to annihilate peaceful peoples[34].

When abortion is linked to modern medical technologies, including nanotechnologies and precise diagnosis, it appears in scientific discourse as a preventive and therapeutic means: avoiding future pains, reducing expected suffering, or preventing the birth of a being doomed from the outset to a severe illness or a profound deformity. Here, science is presented as a servant of the human being and as an extension of his mercy toward himself and others.

Science, in its essence, differs from ethics. If science investigates what is, ethics investigates what ought to be. If the task of ethics is to guide conduct, the task of science is to explain the universe. Therefore, it is not the task of science to judge this thing or that as good or evil. Determining the goals that science ought to serve is broader and more expansive than to be left

33- François Jacob and others, Op. Cit, P. 347.
34- Ibid, p. 348.

to professional politicians; rather, it is a duty that thinkers, writers, artists, philosophers, and everyone who cares about the fate of humanity and thinks about it with integrity and impartiality must reflect upon[35].

Hence, philosophical analysis is necessary so that we can establish a kind of balance between moral values and new scientific developments, in order to change our value system and analyze the moral problems we face because of the wide gap between human thought and technology. Therefore, attention must be paid to the positive role that the philosopher can play in solving the most important problems that confront him-problems that technology, with all its development, cannot reach a solution to-because the positions that philosophy is concerned with analyzing are nothing but subjects that fall outside the scope of science in its narrow experimental sense. Science does not study ideas or values; rather, it studies inert matter such as chemistry and physics, or living matter such as plants and animals, and so on. Therefore, it does not possess the ability to grasp the philosophical and moral dimensions that such topics raise[36].

For example, nanotechnology does not only treat the body, but it intervenes in its fine structure as well, as if the human being were no longer a natural given but an open text for modification. At this point, treatment overlaps with shaping, mercy with authority, and science with a fateful decision that touches the meaning of life itself. Therefore, philosophy does not settle the matter by describing these technologies as pure aggression or absolute salvation; rather, it reveals their duality: they are tools that can reduce pain, but at the same time they may empty life of its sanctity if it is reduced to criteria of utility and efficiency. And at this juncture, philosophy stands not to condemn or justify, but to remind us that the moral question is not about what we can do scientifically, but about what we are entitled to do humanly.

If the renewed situations that the human being faces cannot wait until the various sciences finish studying their issues for the human being to come forward with a solution, then philosophy, as Russell says, is what teaches the human being “how to live without certainty and without being paralyzed by hesitation.” It is not a theory cut off from practice; rather, it is a critical reflection that entails a stance toward life, and it is not abstraction except to the extent that it recovers what is concrete and tangible through what is abstract. In any case, the doubts surrounding science and technology do not necessarily mean rejecting them; rather, it underscores the need for balance between satisfying our needs and desires on the one hand, and the technological means used on the other. It is absolutely not conceivable that society would proceed to stop the wheel of technological progress; rather, it must insist on the continuity of science and scientific research, provided that all of this is coupled, first and foremost, with moral and human dimensions[37].

7- CONCLUSION:

At the end of this article, we arrive at a set of results, among the most prominent of which are:

35- Mostafa Al-Nashar, Op. Cit, p. 349.
36- Mostafa Al-Nashar, Op. Cit, p. 349.
37- Ibid, p. 350.

- It has become clear that the biotechnological revolution has not only disrupted the tools of intervention, but has also affected the ontological structure of the very concept of the human being.
- Philosophical reflection and the religious vision together have formed a critical framework for understanding the sanctity of life as a value that goes beyond a purely technical approach.
- The analysis has shown that the sanctity of life is no longer invoked as a ready-made given, but as a philosophical problem open to interpretation and responsibility.
- The sanctity of life is not subject to fluctuations in human conditions or to criteria of utility and efficiency.
- The ongoing debate over abortion has stood out as a telling example of the conflict between the logic of sanctity and the logic of biotechnological intervention.
- Technological singularity imposes a re-examination of the concept of human freedom under conditions of dependence on technology.
- The human being modified by nanotechnology does not represent a complete rupture with the natural human being, but rather a problematic extension of him.
- The results conclude that the sanctity of life is not reduced to prohibition, but is embodied in directing human action toward safeguarding meaning.
- Preserving the sanctity of life is an essential condition for ensuring a balanced human horizon in the age of technological singularity.

These results represent the summary of an analytical path that attempted to unpack the transformations produced by the biotechnological revolution in the concept of life and its sanctity, by questioning the ethical and ontological foundations on which human action is based in the age of technological singularity. From this horizon, theoretical problems intersect with practical applications, highlighting the need to rethink the place of the human being and the limits of scientific intervention in human life.

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