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Bioethics and its theoretical paradigms

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Abstract

This article seeks to contribute to the understanding of the history and theoretical models of bioethics by an interdisciplinary approach that encompasses different areas of knowledge, especially history and philosophy. First, the study characterizes the historical background on the emergence of bioethics, the terminological issues that arose in this period, and the framing of bioethics as a discipline or field of discourse. Subsequently, the text presents the main theoretical paradigms of bioethics and critically analyzes them.

Keywords: Bioethics. History. Biotechnology.

Resumo

Bioética e seus paradigmas teóricos

O artigo busca contribuir para a compreensão da história e dos modelos teóricos da bioética por meio de abordagem interdisciplinar que engloba diversas áreas do conhecimento, em especial história e filosofia. Num primeiro momento, o trabalho procura caracterizar o panorama histórico de surgimento da bioética, as questões terminológicas surgidas nesse período e o enquadramento da bioética como disciplina ou campo de discursividade. Posteriormente, o texto apresenta os principais paradigmas teóricos da bioética e os analisa criticamente.

Palavras-chave: Bioética. História. Biotecnologia.

Resumen

La bioética y sus paradigmas teóricos

El artículo busca contribuir a la comprensión de la historia y los modelos teóricos de la bioética a través de un enfoque interdisciplinario que abarca varias áreas del conocimiento, especialmente la historia y la filosofía. En un primer momento, el trabajo busca caracterizar el panorama histórico del surgimiento de la Bioética, las cuestiones terminológicas surgidas en ese período y el encuadre de la bioética como disciplina o campo de discursividad. Posteriormente, el texto presenta los principales paradigmas teóricos de la Bioética y los analiza críticamente.

Palabras clave: Bioética. Historia. Biotecnología.

Update

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In recent decades, society has experienced a period of intense and accelerated development in the field of Biomedical Sciences, which has given rise to unprecedented possibilities for intervention in human beings. Assisted reproductive technologies, artificial cardiopulmonary support, organ transplantation, pharmacology, genetic engineering, and cloning are some examples of how the current biomedical revolution has been changing human beings' understanding of themselves and creating areas of activities for health professionals. The therapeutic role begins sharing space with the preventive role, the diagnostic role, and even with the possibility of actions aimed at selecting and improving physical and mental characteristics. In such context, ethical questions concerning the limits of the application of such biotechnologies inevitably arise.

To reach rational solutions for the conflicts resulting from the referred scenario, bioethics is paramount. In order to contribute to the diffusion and study of this field of research, this article first presents a historical background on the emergence of bioethics, analyzing terminological issues and its framing as a discipline or field of discourse. Subsequently, the text addresses some theoretical paradigms of bioethics, namely: virtue ethics, utilitarianism, Kantianism (duty), personalism, principlist biomedical ethics, and hierarchical principlism. In this second part, we analyze the positive and problematic points of the concepts and application modes of each paradigm.

Historical background on the emergence of bioethics

Bioethics emerged in the second half of the 20th century, born out of factors typical to the period. First, it is worth emphasizing the sociocultural factor. The 1960s, especially in Western countries, were marked by cultural and political movements characterized by critical discourses, which spread in the public space. Such movements drew attention to issues of justice and equality and to the affirmation of individual rights, linked to the exercise of freedom and personal autonomy. Distrust and contestation of institutions' power and authority caused considerable changes in the public and private spheres. Fostered by the critical awakening, the questioning of scientific positivism was also intensified. In the field of medicine, the reproaches fell on paternalism in the physician-patient relationship and abuse in experimentation on human beings [1]. In the 1970s, with the popularization of mass media, these ideas expanded rapidly, reaching a wide audience [2].

The second factor that drove the emergence of bioethics was the resounding scientific and biotechnological development of the period. Such scenario, which was known by several names ("new biology," [3] "biomedical revolution," [4] "biological," "ecological," and "medical-sanitary revolution," [5] "therapeutic revolution," and "biological revolution" [6]), was marked by the discovery and improvement of numerous biotechniques. Parizeau [2] notes that technical-scientific development has made medicine multiply its capacity to effectively intervene in the sick person's body via medication (antibiotics, vaccines, antipsychotics), sophisticated intervention techniques (cardiovascular surgery, cardiopulmonary resuscitation, organ transplantation) or even new diagnostic instruments (electrocardiogram, arteriography, magnetic resonance).

This framework, besides transforming life-related knowledges, highlighted the promises and dangers of the new biotechnical powers, since the human being went from a mere spectator to the master of biological evolution [5]. It became possible, for example, to intervene through medicine in the very mechanisms of human life and its organization, ensuring, at least partially, control over procreation and making way to mastering heredity [4]. Biomedical techniques could be used for purposes other than strictly therapeutic, being employed to personal reasons. In this context, the technical-scientific model came to predominate in the development of medicine [2].

According to Bik [4], one cannot ignore that this revolution aimed at remodeling the human being, and not at applying therapies and treatments alone. As a result, two uncertainties arose: one related to the origins of the human being as an individual and as a species, since the new biotechnological interventions made the anthropological references consolidated until then outdated; and the other

linked to the effects that using scientific knowledge and biotechnologies can cause.

Within this context, scientists and other health professionals were faced with new areas of decision-making, having to express opinions and take appropriate actions in unprecedented and complex situations. Ethical issues in this field also began to concern public conscience due to technical and scientific possibilities hitherto unknown [7]. Bioethics, therefore, emerges in this context of biotechnological development, new ethical questions and decision-making possibilities, and the growth of cultural movements for autonomy and equality.

The first mention of the term "bioethics" dates back to previous decades – more specifically, to the year 1927, when the word was used by German theologian Fritz Jahr in an article published in *Kosmos*. Jahr defined "bioethics" as the ethical obligation not only towards human beings, but also towards all living beings. The imperative proposed by the author transformed the field of ethics, giving rise to the so-called "ethics of responsibility": *Respect every living being on principle as an end in itself and treats it, if possible, as such* [8]. Jahr's thought remained virtually unknown until a few decades ago, but it is currently being rediscovered due to the growing interest in bioethics.

In 1970, Van Rensselaer Potter [9], a biochemist and researcher at the University of Wisconsin, in an article entitled "Bioethics: the science of survival," used the term in English for the first time. In this study, Potter recognized that biological facts should be linked to ethical values. This new ethics would have to be interdisciplinary, to include both the sciences and the humanities. Accordingly, the author defined "bioethics" as the wisdom of using knowledge to promote the survival and quality of life of humans and the entire ecosystem.

For Potter [9], the two key elements of bioethics would be biological knowledge and human values, and the new discipline's goal would be to offer life models from which the community could choose, deciding on public policies capable of building bridges for the future. Although Potter's reasoning had a modest influence on the later development of bioethics, his ideas have always been present. Currently, the North American biochemist's studies are being resumed by the "global bioethics" movement, which shows the relevance of his perspective to resolve the issues produced by scientific-technological advances disconnected from ethical values [7].

At the same time, in 1971, the first university institute dedicated to the study of bioethics was founded at Georgetown University. On the initiative of obstetrician André Hellegers, and with donations from the Joseph P. Kennedy Jr. Foundation, the Joseph and Rose Kennedy Institute for the Study of Human Reproduction and Bioethics was inaugurated. The bioethical perspective developed at the Kennedy Institute differed from Potter's ideas by emphasizing two specific aspects: 1) the biomedical issues closest to everyday life; and 2) the adoption of the theoretical and methodological heritage of Western philosophical and theological tradition. These factors, as well as the location of the university (Washington/DC), allowed researchers to participate in public policy making and to access research funds [7].

Moreover, also in the United States, the establishment of government commissions (to analyze issues and submit proposals) and the holding of public hearings in the 1970s and 1980s contributed to a greater linkage between bioethics and ethical problems arising from health care. In 1974, due to numerous cases of abuse in scientific experimentation [10], the US Congress passed the National Research Act, creating the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, in order to identify basic ethical principles to guide scientific experimentation on human subjects. In 1980, a bill was passed that authorized the creation of the President's Commission for the Study of Ethical Problems in Medicine and Biomedical Behavioral Research, with the main goal of discussing and establishing proposals for issues related to euthanasia, genetic engineering, informed consent, and health care [1].

But although the emergence of bioethics consolidated the union between biological facts and ethical values (either in a more general perspective or specifically focused on human health care), it was not yet clear whether the new field could be considered a discipline or not. In the early 1970s,

the North American philosopher Daniel Callahan [11] drew attention to the need for a discipline that would determine the ethicist's role in confronting problematic issues arising from medicine and biology. This discipline, which Callahan called "bioethics," would help physicians and biologists in their decision-making, and to do so, it should delimit problematic issues, methodological strategies and procedures, being sensitive to all the complexity of cases under analysis.

Notwithstanding Callahan's guidelines, what ended up being consolidated was to consider bioethics more as a field of studies, discourses and practices than as a discipline itself [1]. Accordingly, Reich defines bioethics as *the systematic study of human conduct in the area of the life sciences and health care, insofar as this conduct is examined in the light of moral values and principles* [12].

Similarly, Hottois states that bioethics *designates a set of investigations, discourses, and practices, generally multidisciplinary, whose object is the elucidation or resolution of ethical questions raised by the advancement and use of biomedical technologies. Lastly, on our part, we understand that bioethics constitutes a field of studies, reflections, and discourses, necessarily multidisciplinary in nature, which aims to provide ethical guidelines to resolve problems and conflicts arising from the biomedical sciences* [13]. It can be stated, therefore, that no single bioethical theory exists, but several theoretical models that, from the dynamics of discourse and interaction, continuously present the self-transformation, adequacy, and theoretical innovation required by the rapid and intense biotechnological development.

Theoretical paradigms in bioethics

Virtue ethics

Virtue is the oldest, most lasting, and most ubiquitous concept in the history of ethics. This is because the character of moral agents cannot be separated from the acts they perform or fail to perform, as well as from the nature of those acts, the circumstances in which they occur, and its consequences. Virtue ethics focus on the moral agent, their intentions, dispositions and motives, and on the type of person that the moral agent is, wishes to be, or likely will be due to their habitual disposition to act in a certain way [14].

In Western culture, the most widespread and enduring idea of virtue dates back to Antiquity (Plato and Aristotle) and the Middle Ages (Thomas Aquinas). In summary, from this perspective, virtue is understood as excellence of rationality (and not emotionality) in character traits, oriented towards ends and objectives, centered on practical judgment, and learned by practice. Consequently, virtues have normative force not because they are admired, but rather because they conform to the ends, purposes, and the good of human beings (according to an underlying metaphysics) [14].

Today, it is the British philosopher Alasdair MacIntyre who most successfully reconstructs and reformulates the Aristotelian notion of virtue. For MacIntyre, virtues are *acquired dispositions and qualities that are necessary for: 1) achieving the intrinsic good of practices (conducts), 2) supporting communities to enable individuals to pursue a greater good as a good of their own lives, and 3) sustaining traditions that provide necessary historical contexts for individual lives. Virtue, thus, is an indispensable character trait for achieving a good, a perfect excellence* [15].

Hence, as Pellegrino [14] points out, any virtue-based normative ethics applied to the clinical relationship requires: a theory of medicine for defining *telos*, the *good* of medicine as an activity; a definition of virtue based on the purpose of the clinical relationship; and a list of virtues linked to the theory, determining how *good* healthcare professionals should be. According to this author, the theory of medicine is based on three phenomena: the fact of becoming ill, the use of knowledge to help the patient, and the action aimed at the patient's cure. As for the definition of virtue, Pellegrino corroborates MacIntyre's Aristotelian bias and, finally, establishes a list of virtues of the *good* healthcare professional: *fidelity to trust*, *benevolence*, *abnegation*, *compassion and care*, *intellectual honesty, justice and prudence* [16].

Utilitarianism

Utilitarianism as an ethical model originates in the thought of British philosopher Jeremy Bentham. Deeply rejecting the idea of natural rights, Bentham developed an intuitive formulation

according to which the highest goal of morality is to maximize happiness, thus ensuring the hegemony of pleasure over pain. Hence, the philosopher understands that the concepts of right and wrong – and, consequently, the human actions resulting from these concepts – aim to promote happiness and distance themselves from pain or displeasure. For Bentham, utilitarian ethics must be analyzed on a case-by-case basis [17].

Bentham's disciple, John Stuart Mill, also British, sought to perfect his master's utilitarian reasoning. For Mill, utility must be considered in a broader sense, based on the permanent interests of the human being as an evolving being. To do so, a principle of freedom that allows people to act as they see fit, as long as they do not cause harm to others, is essential. In the long run, therefore, the respect for individual freedom would produce maximum happiness/utility for human beings [18]. But unlike Bentham, who understood utility only in its quantitative and intensity-related aspect, Mill believed it was possible to establish a qualitative scale for utility [19].

In classical utilitarianism (also called "act utilitarianism"), of which these philosophers are representatives, analyzing the consequences of acting or not acting is imperative. The goal of this utilitarian reasoning is to define the action that produces the best benefit (utility), weighing the consequences and interests of all those affected and involved in a given factual situation. Conversely, the so-called "rule utilitarianism" also emerges, a branch of utilitarian thought that admits the need for moral rules (usually constituted in the social milieu). The conformity of an action to moral rules (justified by utility) is what determines the morality of the action, even if, in a particular context, obeying the rule does not maximize utility [20].

Another currently widespread perspective of utilitarianism is based on the principle of equal consideration of interests, formulated by the Australian philosopher Peter Singer. To explain this principle, Singer starts from the understanding that ethical conduct is universal, and that an ethical principle cannot be justified by considering only individual or group-specific interests. Moral reasoning must follow the course of action that presents the best consequences for all those affected, after examining possible alternatives. The essence of the principle is, therefore, to give equal weight to the interests of all those affected by the action [21].

Kantianism (duty)

Kantian philosophy is the basis of much of the contemporary thinking on morals and politics. Unlike utilitarianism, Immanuel Kant's duty-based ethics is not concerned with increasing happiness or any other purpose. From this perspective, morality should not be based only on empirical elements (such as desires and preferences), as these are variable and contingent factors. For Kant, as a rational being, capable of thinking, acting and deciding freely (that is, as an autonomous being), man *is deserving of dignity and respect and, therefore, morality should be based on considering people as ends in themselves* [22].

The German philosopher understands that to act freely (with autonomy) does not mean choosing the best way to achieve a certain end, according to external determinations (heteronomy), but choosing the end itself. In Kant's reasoning, when human beings act in a heteronomous way, they act as instruments, and not as authors of the goals intended to be achieved [22]. Consequently, it is the autonomy of human beings, treated as an end in themselves, that gives them respect and dignity. The moral value of an action, therefore, does not consist in its consequences, but in the intention with which it is performed, that is, what matters is the motivation (duty) to do the right thing because it is the right thing, without any other external motivation (consequence).

If morality means acting according to duty, it remains to be seen what duty consists of. Kant believes that duties arise from reason, that is, from a pure practical reason that creates its laws a priori, despite empirical goals. Accordingly, the philosopher establishes that *reason guides the will through categorical imperatives (unconditional duties), which must prevail in all circumstances*. In his first categorical imperative, Kant states that: *an action is morally right if, and only if, the agent of the action can consistently will the general principle of action (maxim) to be a universal law* [23].

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In other words, individuals must only act according to the principle (maxim) they believe must constitute a universal law. Accordingly, the Kantian categorical imperative points to what should be avoided in action, that is, *actions whose principles (maxims) cannot be universalized (applied to all people, including the agents themselves)* should be avoided [24].

Conversely, in his second categorical imperative, Kant establishes the absolute value that underlies the moral law: humanity and its dignity. Human beings as rational beings exist as ends in themselves and cannot be used merely as a means for the arbitrary satisfaction of the will. In all their actions, human beings must be considered simultaneously as an end. In the Kantian "realm of ends," everything has either a price or a dignity, and human beings, for being above all price (as they cannot be replaced by anything equivalent nor be the object of quantification or gradations), possess dignity. Thus, Kant enunciates the imperative of dignity, which constitutes a human being's duty to oneself and to others: *Act in such a way that you treat humanity, whether in your own person or in the person of another, always at the same time as an end and never simply as a means* [25].

Personalism

The theoretical model called "personalism" adopts a triangular approach, which departs from both induction and simple deduction. Thus, personalism establishes the need to examine three points to solve bioethical issues. Initially, the biomedical fact must be exposed with scientific consistency and accuracy. Subsequently, we have the deepening of the anthropological meaning, analyzing which values are linked to the problem-situation. Then, one can determine the values that must be protected and the guidelines that will steer action and agents at the individual and social levels [26]. For personalism, this third point, concerning solving bioethical issues, must converge with the fundamental concepts and values of the human person [26].

Conceptually, following Christian anthropology, anchored in the Aristotelian-Thomistic tradition, Sgreccia asserts that *the human person, in their essence and existence, is a body-spirit unity, which possesses intrinsic value. Therefore, substantially, this unity is the ontological structure of humanity* [27]. Moreover, personalism defends that it is from the unitary constitution of the body-spirit – that is, from the very nature of human beings – that their dignity derives. Consequently, human being and dignity are elements that identify each other, that is, humanity itself is dignity. Hence, personalism, by referring to the human reality of the body-spirit unity and its intrinsic dignity, establishes the principles that characterize its bioethical model: *defense of physical life, freedom-responsibility, totality-therapy, sociability-subsidiarity* [28].

The principle of defense of physical life emerges in personalism as a value resulting from the very concept of person adopted by the theoretical model. Hence, if the body is a constitutive element of the person, in and through which the person is realized, integrates time-space and manifests oneself, the first ethical imperative of human beings before themselves and others is to respect and defend life. Moreover, personalism links freedom to responsibility. Thus, responsibility consolidates a moral obligation towards the procedures necessary to safeguard life and health, limiting the patient's and the professional's freedom. Freedom should only receive privileged treatment in cases where life is not part of the problem-situation [26].

Conversely, the principle of totality-therapy consists in safeguarding the individuals' health, considering them integrally, in their physical, spiritual, and moral aspects. In other words, therapeutic intervention must be carried out only on the sick part of the body or the part directly causing the disease, when there is no other alternative to eradicate the disease, there is a chance of cure and the patient's consent. Finally, the principle of sociability-subsidiarity obliges the community to promote the common good by protecting the life and health of each person. According to the personalist model, actions to promote life and health in the social sphere must comply with the subsidiarity criterion, favoring more serious cases [26].

Principlist biomedical ethics

Principlist biomedical ethics, developed by North American philosophers Tom Beauchamp and James Childress, has the publication of

the *Belmont Report* in 1978 as its historical landmark. Resulting from studies and discussions of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, the report established principles for experimentation on human beings. Based on the content presented in the report, Beauchamp and Childress elaborated a philosophical proposal, developing, detailing and modifying in certain aspects the concept and foundation of these principles. Incorporating nonmaleficence to the principles of respect for autonomy, beneficence and justice, the new principled configuration assumed a relevant role in decision-making in all biomedical activity [7].

To understand the principle of respect for autonomy, naturally, it is first necessary to establish what personal autonomy is. For Beauchamp and Childress, *an autonomous individual is one who*: *1) acts freely, according to a plan intentionally chosen by oneself, 2) who has no limitations that entail inadequate understanding for conscious choice; and 3) whose freedom does not suffer any kind of undue interference from third parties* [29]. Accordingly, the intentionality element does not admit gradation (that is, it is either present or not), but the understanding and interference of third parties admit some degree of relativization. The principle of respect for autonomy, thus, requires recognizing that each person can have their own opinions, make their own choices, and act according to their own beliefs and values. Such respect is not only a negative act, of non-intervention in people's choices, but also a positive obligation, which improves the conditions for decision-making.

The principle of nonmaleficence, in turn, represents the obligation not to intentionally cause harm and involves acts of abstention. According to Beauchamp and Childress, the principle of nonmaleficence encompasses more specific moral rules, including: *1) do not kill; 2) do not cause pain or suffering; 3) do not incapacitate; 4) do not cause offense; and 5) do not deprive others of the goods of life. Morality requires not only not to do harm, but also, whenever possible, to promote actions that bring benefits, that is, which contribute to the well-being of people* [30]. The term "beneficence" translates into acts of gratitude, kindness, and charity, besides including altruism, love, and humanity. Hence, beneficence represents the action performed for the benefit of others and derives from the character trait called "benevolence" [20,31].

Finally, the idea of justice is related to what is due to people, to what somehow belongs or corresponds to them. Generally, to act justly is to act according to one's merit, equitably and appropriately. In the biomedical field, the dimension of justice that stands out is that of equitable distribution of rights, benefits and responsibilities. But for this distribution to be effectively just, it is necessary to analyze the principle in the sphere of formality and materiality. Consequently, theories that seek to delimit a concept for formal justice most often resort to the Aristotelian saying: equal cases must be treated equally, and unequal cases must be treated unequally. Nevertheless, due to the lack of concreteness, the formality criterion requires material content. Beauchamp and Childress mention the following aspects: to each person 1) an equal share; 2) according to their individual needs; 3) according to their individual efforts; 4) according to their contribution; 5) according to their merit; and 6) according to the rules of exchange in a free market [20].

Hierarchical principlism

According to Gracia Guillén, the four bioethical principles proposed by Beauchamp and Childress should be structured in two different levels, which define the two dimensions of moral life: *a level of public management, composed by the principles of nonmaleficence and justice, and another of private management, consisting of the principles of respect for autonomy and beneficence* [32].

The duties at the public management level (nonmaleficence and justice) arise from the fact that life in society obliges everyone to accept certain moral precepts. The duty of justice requires the State to apply these precepts to all its members equally. Thus, with justified exceptions, public ethics must treat people equally, avoiding discrimination, marginalization, and social segregation. Conversely, the duty of nonmaleficence reflects the obligation to do no harm to another person, including with regard to the inviolability of life and physical or biological

integrity. Both justice and nonmaleficence are expressions of equal consideration and respect for human beings [5].

The duties of the private management level (respect for autonomy and beneficence) are linked to the particular ethical sphere of individuals. Respecting autonomy means respecting the value system, life goals, and the idea of perfection and happiness of individuals in their uniqueness. Beneficence is also closely related to the value system adopted by each person – a system that determines what the individual understands as "beneficial action." All individuals differ at this level, due to the diversity of ideas and conceptions of happiness. The principles of autonomy and beneficence not only allow for moral differences between people, but also require that particular moral concepts be respected [5].

Based on this distinction between the public and private management level, Gracia Guillén establishes the hierarchy between principles. By this hierarchical rule, in case of conflict between duties of the two levels, the public has priority over the private. Hence, Gracia Guillén understands that *nonmaleficence, that is, the duty not to do harm to another person, is clearly superior to beneficence, that is, the duty to promote benefits* [33].

The author also asserts the same reasoning regarding the relationship between nonmaleficence and justice: the first would occupy a higher hierarchical position in relation to the second. The hierarchical superiority of nonmaleficence and justice over beneficence is explained by the fact that an act of beneficence must be freely promoted and received and, therefore, it is intrinsically linked to autonomy, which justifies the philosopher's opinion that beneficence and autonomy are closely related principles, integrating the same level (private duties) and, therefore, situated hierarchically below the public level duties.

Final considerations

Considering the historical background that characterized the second half of the 20th century, two factors were clearly essential for the emergence of bioethics: the biomedical revolution and the sociocultural transformations. From then on, interest in and the study of bioethics spread, leading to the creation of several theoretical paradigms and methods for applying these paradigms to conflicts of interest in biomedical sciences. We proceeded, thus, to a critical analysis of the strengths and problems presented by the theoretical models discussed.

Regarding virtue-based ethics, Pellegrino recognizes that it is necessary to ground it on bases that go beyond the circularity of logical justification (*good* is what is done by the virtuous person, and the virtuous person is one who practices *good*). In this circularity, the paradigm of virtue can end up being intuitive, subjective and incomprehensible, for what is virtuous in one community can be vicious in another. A second difficulty of virtue ethics is the insufficiency of definitive action guidelines that support principles, rules, and maxims, at least in the abstract. Finally, one can mention the issue of supererogation, since understanding virtues as a character trait of excellence requires an unusual effort from the agent [14].

From a utilitarian perspective, the positive points highlighted by Beauchamp and Childress [20] are: 1) the principle of utility plays an important role in the development of public policies, given the characteristic of utilitarian reasoning in assessing everyone's interests and making an impartial choice, maximizing good outcomes for all affected parties; 2) utilitarianism understands morality primarily in terms of the production of well-being, a perspective closely related to the idea of beneficence; and 3) consequentialist reasoning can be used fruitfully in certain cases, even if complete reasoning is not accepted.

Conversely, some criticisms of utilitarianism emerge. One of the problems occurs when individuals adopt a position of preferences morally unacceptable by the weighted judgments. Hence, it seems that utilitarianism based on subjective preferences could only be acceptable if a list of acceptable preferences was formulated, regardless of the agents' preferences. Moreover, Beauchamp and Childress [20] raise doubts about moral legitimacy as to the fact that utilitarianism understands that it is possible to commit an immoral act, provided that this is the only way to achieve maximum utility in the end.

As for Kantian ethics of duty, we first highlight the problem of how to ensure that different people, with different wills (in theory), will reach a single and correct universal law in decision-making processes of morality. Besides, it is extremely difficult to be

sure that morality exists regardless of the influence of powers and interests, that is, whether the human being (agent) is capable of acting autonomously [22]. On the other hand, the personalist model can also be criticized, especially the one developed by Sgreccia. According to Ferrer and Álvarez [7], one may have the impression that Sgreccia's conceptual and principled proposals are more related to the field of moral theology than to philosophy.

Moreover, it seems that this list of principles cannot effectively provide adequate solutions to the diversity of problems existing in bioethics, since combining different constitutive elements into unitary principles and the relative hierarchy of these same principles (the author only considers the principle of defense of physical life hierarchically superior over freedom-responsibility, not mentioning the others) creates a gap of method and application. Nonetheless, we understand that ontological personalism provides a relevant contribution to bioethics by establishing that human dignity is intrinsic to every human being, by the simple fact of being, with no need for any other kind of recognition. Hence, human dignity emerges as a basic ethical foundation, on which bioethical principles and their application must be based.

Regarding principlist biomedical ethics, Beauchamp and Childress recognize that the four cardinal principles do not constitute a general moral theory, but only form a framework for identifying moral dilemmas and reflecting on them [20]. Consequently, the North American philosophers support the application of reasoning comprising specification and ponderation methods. Specification corresponds to the process of reducing the indeterminacy of abstract norms, endowing them with adequate content to guide concrete actions. By prudently applying the principles to concrete situations, the meaning and scope of general moral principles and norms become consistent with the values and norms accepted by the individual and the community. Moreover, ponderation emerges as a methodological element to ponder moral principles and norms, indicating which alternative will produce the best consequences in the concrete case.

The most severe criticism of Beauchamp and Childress' principlism was made by Gert, Culver, and Clouser [34]. For them, principles lack a conceptual or systematic *status* and, therefore, obscure and confuse moral reasoning, thus failing to act as guidelines for right action. This is because principles present diverse moral considerations, only superficially interrelated, and countless internal conflicts, not supported by a single ethical theory, but by several.

The authors of this study partially agree with Gert, Culver, and Clouser. On the one hand, the principlist biomedical ethics elaborated by Beauchamp and Childress has no ethical-philosophical theoretical basis, and difficult-to-resolve bioethical conflicts can be generated by the systematic logic and application of principles to concrete cases. On the other, such model incorporates material content of extreme relevance to bioethics, which can and should be used as a guideline to resolve bioethical conflicts, provided it integrates the structure of a hierarchically organized moral system.

In fact, such is the solution offered by Gracia Guillén [5], who proposes a systematic perspective to the principlist biomedical ethics based on the distinction between principles that integrate the public management level and those that integrate the private management. This seems to be a more refined methodology for resolving conflicts between bioethical principles, but one cannot forget the need for a basic ontology for the principlist paradigm (either pondered or hierarchical).

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