

BIOETHICS (Greek βίος [bios]—life, ἦθος [ethos]—custom)—a specialized part of philosophical particular ethics which established evaluations and moral norms in connection with interference in human life in the borderline situations of its origin (biogenesis), duration (biotherapy), and death (thanatology).

With the steady development of the medical, biological, and technical sciences appear new possibilities for interference in human life that bioethics must investigate in terms of their moral honesty (or dishonesty).

THE HISTORY OF BIOETHICS. Put in the context of the development of ethics, bioethics goes back to ancient times. Joined with the development of medicine and the medical profession it goes back to the oath of Hippocrates. With respect to religious reflection it is connected, among other things, with the origin and development of moral thought on the decalogue, and especially on the commandment: you shall not kill.

Saint Thomas discussed questions such as mutilation, flagellation, incarceration, homicide, suicide, and capital punishment in the context of his discussion of the virtue of justice (*S. th.*, II-II, q. 64 f.). During the Thomistic renaissance in the sixteenth and seventeenth century these questions were discussed by authors such as D. F. Soto, D. Bañez, and L. de Molina. Abbot Francesco Cangiamilla's treatise *Embriologia Sacra* of 1747 is a noteworthy work in which the author raises the question of fertilization, implantation, and in accord with the Thomistic tradition he supports respect for and defense of human life from the moment of its conception.

In 1803 a work called *Medical Ethics* by T. Percival was published, in which the author sought a proper solution for the relation between physician and patient. He required the physician to observe three principles: to live honestly (the principle of virtuous life), not to injure another (the principle of non-injury), and to render to each what is due to him (the principle of justice). He thought that in many situations it is difficult to reconcile the principle of the patient's autonomy with the physician's authority, whose knowledge authorizes him to perform actions appropriate to the ill person's health. He also rejected the exaggerated paternalism of the ancients according to which the sick person should be treated as a child in need of help, and he rejected the exaggerated autonomy of the patient, who as mature should know and decide about everything concerning his illness and therapy. Instead of childish paternalism and the opposite attitude of the autonomy of adults, he proposed a youthful paternalism. The ill person is treated appropriately for the situation in which he finds himself—he is responsible for himself to the extent this is possible in his state. In this way the patient is not treated by the physician as a child or as one who decides or undermines the sound decisions and authority of the doctor.

People became aware of the need to make a philosophical-moral reflection on the new possibilities open to the biological and medical sciences in full after the Second World War, in the course of which the latest medical accomplishments were used in the genocide of millions of people. In the framework of the new science of genetics they had begun to segregate people in better and worse in view of their genetic endowment. In the name of "racial hygiene" they performed sterilization, abortion, and the euthanasia of the mentally handicapped, the mentally ill, and those who belonged to another race. The arguments of geneticists were used to destroy other nations. Medical experiments on prisoners were performed on a massive scale. The Nuremberg trials revealed information on this and inspired a search for ethical and legal principles that could defend humanity in the future from similar barbarity. The first important

moral reaction to these crimes was the Universal Declaration of the Rights of Man on December 10, 1948 by the General Assembly of the United Nations.

Bioethics as a new discipline appeared somewhat later. In the 1960s there was a rapid development in the biological sciences and extraordinary technical progress based on those discoveries. In this way new procedures became possible such as kidney-dialysis, organ transplants, prenatal diagnosis, the use of respirators, and instruments for intense therapy. The development of the life sciences made possible more effective measures against epidemics and diseases and pushed back the frontier of death. Genetic engineering began to emerge and take shape.

Economic progress increased man's domination of nature, but its immoderate and predatory development began to threaten man's natural environment. The hope that by technical progress man would transcend his natural limitations and assure himself of full control over his nature met with disappointment.

**THE DIFFERENTIATION OF BIOETHICS AND THE APPEARANCE OF CENTERS OF BIOETHICAL RESEARCH.** In 1970 van Renselaer Potter, an oncologist with the University of Wisconsin in Madison (USA), used the term "bioethics" for the first time in his moral reflection on the biological and medical sciences (in the article *Bioethics: The Science of Survival*) and reflected on the methodological foundations of a separate discipline (in the book *Bioethics: Bridge to the Future*).

At the same time in the USA there were already two centers in which the scientific development of a new discipline and the popularization of its achievements had begun. In 1969 a philosopher of behavior, D. Callahan, founded in Hastings (New York State) the Institute of Society Ethics and the Life Sciences, known as the Hastings Center. Since 1970 this institute has published the "Hastings Center Report". The Hastings Center does not engage in academic activity, but it makes it possible for ethicists to meet with experts in the field of medicine. It observes and studies from an ethical, legal, and social point of view the most important problems that arise from the development of medicine and biology. It assists institutions of higher learning to create programs for teaching bioethics and organizes introductory courses in the problems of bioethics.

The development of bioethics as a scientific discipline followed at a rapid pace in The Joseph and Rose Kennedy Institute for the Study of Human Reproduction and Bioethics (Kennedy Institute, in short), which was founded by the Dutch physiologist and embryologist Andre Hellegers. As a member of Papal Commission for Matters of the Family, Population, and Procreation convoked by John XXII (in 1963) and expanded by Paul VI, Hellegers moved from John Hopkins University in Baltimore to the University of Georgetown in Washington, which is run by the Jesuits. A scholarly post (Center for Population Research) has existed since 1962, which is occupied with demographic problems. From the beginning this is has the institution, founded in 1971, the character of an academic center. Within Georgetown's Medical and Philosophical Faculty a program of academic studies in bioethics has been developed. The university grants students academic degrees in this discipline. The institute possesses a bioethics center, a center for demographic research, and a laboratory for research on biological reproduction. It also performs research, lectures, and provides services for public institutions concerning bioethics, human reproduction, and population.

In 1978 the Kennedy Institute was the first to publish the *Encyclopedia of Bioethics* (in four volumes, ed. W. T. Reich), and then published the annual *Bibliography of Bioethics*, which contains the complete literature on bioethics.

The first center of bioethics in Europe arose in Barcelona in 1975. In the Theology Department of the University of Barcelona the Jesuit O. M. Cuyas created the Instituto Borja de Bioetica. Interest in bioethics spread from Spain to France, and later to Italy. In the 1980s centers were started in Lille, Lyons, and Paris. Under the direction of J. Bernard the Comite Consultatif National d'Ethique became renowned.

In England in 1962 in the London Medical Group discussion on bioethics began. This center was transformed into the Institute of Medical Ethics. From 1975 the Institute has published "Journal of Medical Ethics", and from 1985 "Bulletin of Medical Ethics". At the initiative of the bishops, the Catholic Bioethics Centre in London, also called The Linacre Centre, was founded.

Among Catholic bioethical centers we should mention The Pope John Center which became active in 1972 in St. Louis (Missouri) as the Pope John XXIII Medical-Moral Research and Education Center. In 1985 the center moved to St. Elizabeth's Medical Center in Boston, and later changed its name to The National Catholic Bioethical Center.

In Milan there arose La Scuola di Medicina e Scienze Umane dell'Istituto di San Raffaele, in Rome the Istituto e Centro di Bioetica dell'Università Cattolica del Sacro Cuore, and in Palermo and Acireale the Istituto Siciliano di Bioetica. In Poland the Chair of Bioethics was founded in the ATK in Warsaw, and the Institute for Bioethics and the Chair of Bioethics at PAT in Kraków.

The number of centers for bioethics is constantly growing, as are organizations, committees, and commissions established by state parliaments and by the European Parliament. Many declarations, conventions, recommendations, resolutions, and ethical and legal codices have been set forth concerning problems in bioethics. The European Bioethical Convention of April 4, 1997, with the title *Convention for the Defense of the Rights of Man and the Dignity of the Human Being in the Context of Applications of Biology and Medicine* (along with an additional protocol) may be seen as a synthesis of many documents devoted to the problems of bioethics. There have been attempts to formulate a canon of the rights of man in this field. Institutes of bioethics situated near hospitals take on the role of resolving moral questions in particular cases. Their resolutions influence the legal evaluations of the decisions of doctors and ways of therapy; both patients and doctors look to them. Court judgments on controversial situations are also very important, for they form defined practices in this area.

**DEFINITIONS AND BASIC UNDERSTANDINGS OF BIOETHICS.** The first conceptions (V. R. Potter and A. Hellgers) of bioethics as a new discipline differed from one another. Potter looked at bioethics from the perspective of the defense of the natural environment, and the biomedical problematic was not central to him. In his conception, bioethics is "an effort to use the biological sciences for the improvement of the quality of life". He understood bioethics as a science concerned with the global survival of life on earth, chiefly human survival and an improved quality of life. In bioethics he emphasized land ethics, wildlife ethics, population ethics, and consumption ethics. He was inspired by the research, among others, of T. Dobzhansky, a professor of zoology at Columbia University, who in 1958 had developed the basic ideas of a science of survival. He stated, among other things, that no

biological law guarantees the human race development and survival, and therefore a science of the conditions of survival should developed corresponding programs that nature alone does not provide. Such a science, according to Potter, while it learns and reveals the causes of the ecological crisis, will counteract the processes that could lead to the complete disruption of earth's ecosystem. Bioethics here is treated as a science concerning global survival and is close to environmental ethics and ecological ethics; its chief concern would not be medical problems but how to counteract the destruction of the environment, that is, the defense of the biosphere and ecosystems.

A. Hellegers began to develop bioethics in a narrower sense, starting from the relations between medicine, the physician, and the patient. He saw the need to develop a science concerning respect and defense of the rights of the patient.

Bioethics in its first and broader sense was developed at the Hastings Center (Callahan). In its second and narrower sense it was developed at the Kennedy Institute (A. Hellegers). According to D. Callahan, bioethics in the narrower sense is too exclusive in its emphasis on the relations between physician and patient. This approach, however, does not consider the broad area of the moral aspects connected with the life sciences, which include medicine, biology, environmental science, population science, and the social sciences. Thus we may say that bioethics in its narrow sense is the same as the ethics of medicine, with the addition of new particular problems, while in its broader sense it is ethics of the natural environment; in the latter case it is cultivated from the position of ecological ethics.

Bioethics is still in the course of defining its material object, formal object, and methods, hence there are different definitions of bioethics. W. Reich wrote in the first edition of the *Encyclopedia of Bioethics*, "Bioethics is the systematic study of human conduct in the area of the life sciences and concern for health, which conduct should be evaluated in the light of moral values and principles". According to E. Sgreccia, one of the first theoreticians of this discipline in Italy, it is a part of moral philosophy that considers the morality or immorality of interventions in human life, in particular those that are connected with the practice and development of the medical and biological sciences. According to T. Ślipko, bioethics is a division of philosophical particular ethics that establishes important evaluations and norms (rules) in the area of human acts that intervene in the borderline situations of the beginning of life, its duration, and death.

The author of the last definition tries to avoid both a too restricted and a too broad treatment of the object of bioethical research. According to this definition, bioethics is not concerned with all situations in human life, but only exceptional, critical, and at the same time borderline situations. Bioethics should provide evaluations and norms concerning the limits of intervention in these situations. Since such situations arise during the beginning of life, its duration, and death, bioethics should be divided into three parts: biogenesis, biotherapy, and thanatology. The ethics of the natural environment should precede other parts of bioethics (T. Ślipko) or it could be practiced within the framework of the defense and promotion of life and health (W. Bołoz).

Bioethics treated as a philosophical discipline, that is, as autonomous from the precise sciences, it is not a philosophy of science, e.g., the philosophy of biology, of medicine, or of technology, since it is not concerned with the development of these sciences in connection with the development of philosophical thought, but is concerned with moral evaluations and norms concerning the proper use of the possibilities presented by these sciences. Bioethics is

not a professional ethics, such as is medical ethics, since its object is broader than research ethics in general or medical ethics.

**THE PROBLEMATIC OF BIOETHICS.** Bioethics may be defined by enumerating the problems it studies. Ecological bioethics (otherwise ethics of the natural environment) may precede other problems of bioethics, since it is concerned with the external conditions of man's birth and life. It began as a reaction to the technocracy and consumerism of contemporary civilizations, to the degradation of the natural environment, the disruption of ecological balance, and the biological and genetic deformations and various diseases of civilization caused by this disruption. The degradation of the natural environment disturbs biochemical cycles and eliminates the functioning of the mechanisms that maintain the balance of ecosystems, which threatens to make life disappear on Earth. Knowledge of relations of dependence between the natural environment and the human organism, and of the biological and medical effects of the degradation of the environment, are important for ethics. Looking to this knowledge, among other things, normative conclusions are formulated concerning man's behaviors toward inorganic nature, plants, and animals. In these conclusions a definite understanding is presupposed of inorganic and organic beings, as well as man, and the relations among them. Particular norms are formulated opposing the extermination of valued species of animals, concerning experiments on animals, causing them suffering, certain methods of breeding animals, hunting etc..

Genetic bioethics, as opposed to ecological bioethics, directly studies what concerns man's genesis in his earliest stages. It performs moral reflection on the problems that appeared in connection with the development of contemporary genetics and the application in genetics, embryology, and eugenics of technical accomplishments that even in the prenatal period allow doctors to discover defects and genetic diseases. Genetic engineering makes it possible to interfere in man's genetic code on the basis of possessed knowledge; the recognition of genes that carry inherited diseases creates the possibility of genetic therapy both in the prenatal period and after birth. Genetic bioethics sets boundaries to interference in man's genetic code and analyzes the moral aspects of defending the human embryo and fetus.

Bioethics also evaluates the possibilities of eugenics; it makes pronouncements, among other things, in the matter of eugenically oriented artificial procreation, extra-uterine homogenic and heterogenic fertilization, cloning, and surrogate motherhood (where one person is the child's genetic mother, and another is the biological mother).

The sections of bioethics mentioned concerned man's biogenesis, while the next section is connected with biotherapy. In it is performed an ethical reflection on medical experiments (e.g., on prisoners of war, prisoners, volunteers), on therapeutic methods applied in psychosurgery or psychopharmacology that change man's behavior, on organ transplants, on conditions for performing transplants, on the definition and criterion for the death of an organ donor, on the limits of mutilation (amputation, castration, sterilization).

The last part of bioethics concerns man's death. It makes pronouncements on euthanasia (both suicide and legalized homicide), and analyzes extreme situations of incurably ill persons, the application of re-animation instruments, and the question of permitting the death or helping the dying.

**ANCILLARY CONCEPTIONS, CRITERIA, AND PRINCIPLES OF BIOETHICS.** In philosophy at least three different conceptions of ethics occur: eudaimonistic (the essence of

the moral good is the act's capacity to provide happiness); deontonomic (that is good which is in agreement with the command of some moral legislator); and personalistic (the moral good consists in the affirmation of the person's dignity).

Bioethics arose in the context of a radical separation of facts from values, of the exact sciences from ethics. D. Callahan (*Encyclopedia of Bioethics*) states, "The consequence of this was the triumphalism of positivism, which at the end of the nineteenth century and for the first half of the twentieth century dominated how the exact sciences were understood, and it excluded problems of ethics and questions of values from serious intellectual discussion". Positivism assigns the highest objectivity and authority to scientific facts, and pushes back moral norms and values to the private sphere, to the sphere of taste and subjective preferences.

The bioethics that emerged in the second half of the twentieth century was practiced from a position of scientism, naturalism, and utilitarianism. It was concerned only with effectively exploiting the possibilities of biology or genetics. Bioethics would develop a program for increasing the utility of new scientific and technological discoveries. This utilitarianism was intensified with the appearance of sociobiology (E. O. Wilson, R. Dawkins) in which bioethics would be the scientific investigation of human behaviors. In it human nature was reduced to a collection of traits that characterize the human body, and human nature was reduced to the determined mechanisms known to sociobiology. The concept of human nature as immutable was rejected as a prejudice. The ends of man's conduct were reduced to ends of biological utility, to survival and the preservation of the species.

Utilitarianism also developed in applied bioethics, for the simple and thereby suggestive calculus of losses and benefits even in complicated medical situations allows ethical commissions to determine what should be done. Utilitarians became close to economists, who calculate benefits just as financial profits and losses are estimated. The euthanasia of the seriously ill and the euthanasia of anencephalous infants and those with Down's syndrome is based on a utilitarian calculus (P. Singer). Utilitarian language finds its way into human opinions and even legal judgments, in which courts analyze whether the patient derives some benefit or injury from life-support. Such formulations also appear in the pronouncements, for example, of the World Health Organization which, with its formulation of the principle that in different cases "abortion is in the interest of the future child who will be a cripple" (WHO, Li 1981), supports death. In such an argument it is asserted that the killing of an ill person is a benefit to him, and so abortion or euthanasia lies in the interest of the patient.

Utilitarianism treats the person as a thing that can be used in order to increase some benefit to the human race, civilization, or the increase of well-being; it reduces the value of the person to his biological, genetic, or social properties.

Autonomous deontonomism holds that an act is good because it is the act of an autonomous decision. It does not require legitimization by reasons justifying a particular act. The subject's autonomy is in itself the source of the fittingness of the act. Those who support euthanasia, abortion, suicide, and artificial procreation often appeal to the autonomy of the subject. The subject's absolute autonomy as a criterium of good and evil is often connected with private preferences.

Personalists assert that the dignity of the human person founded upon human nature is the proper norm of morality. The human reason can read and understand the order contained in the nature of the human person and formulate obligations that rise from the human person's

corporeal-spiritual nature. It does not eliminate the freedom of the person, but directs this freedom toward the good of the person as a person who is an authentic good (not merely a concupiscible or useful good) that is recognized by the human reason.

Various ethical principles are formulated in bioethics to specify the criterium of morality. These principles may help in arriving at particular norms and later in resolving concrete situations (e.g., clinical bioethics). Some of them were already functioning in medical ethics. Others were formulated during social discussion and a search for consensus in complicated cases. The definition, number, content, and reach of these principles are still under discussion. For example, the ethics of principles (L. Beauchamp and J. F. Childress) and the ethics of virtues (E. D. Pellegrino) are opposed to each other. The understanding of principles depends on the philosophical assumptions of the bioethics that is practiced. Some attempt to set the principle of the quality of life as it is understood in utilitarian terms in opposition to the principle of the sanctity or inviolability of human life associated with personalism. This opposition is inspired by the controversy between so-called secular bioethics (H. T. Engelhardt, U. Scarpelli) and Christian bioethics, behind which is the fundamental controversy between secular or atheistic humanism and Christian humanism.

In the bioethics that has utilitarian and liberal roots the principles of autonomy, beneficence, and justice are accented. However, these principles come into direct conflict with each other. In the bioethics associated with personalistic ethics the principles of doing no harm, totality, solidarity, and double effect are emphasized.

These principles, however, cannot be separated from the criterion of morality or from their anthropological and metaphysical foundations. The very act of putting them in confrontation with each other (e.g., the principle of the patient's autonomy with the principle of the doctor's doing good or with a better understanding of what is in the patient's interest), concludes with a conventional limitation of one principle to the advantage of the other. It is then that the opinion of an ethical commission will define the meaning of the principles and they become the final criterion of what is morally good.

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