

Paradigm shift, metamorphosis of medical ethics, and the rise of bioethics

Transição paradigmática, metamorfose da ética médica e emergência da bioética

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Abstract *Both the increasing incorporation of medical technology and new social demands (including those for health care) beginning in the 1960s have brought about significant changes in medical practice. This situation has in turn sparked a growth in the philosophical debate over problems pertaining to ethical practice. These issues no longer find answers in the Hippocratic ethical model. The authors believe that the crisis in Hippocratic ethics could be described as a period of paradigm shift in which a new set of values appears to be emerging. Beginning with the bioethics movement, the authors expound on the different ethical theories applied to medical practice and conclude that principlism is the most appropriate approach for solving the new moral dilemma imposed on clinical practice.*

Key words *Bioethics; Medical Ethics; Medicine*

Resumo *A crescente incorporação de tecnologia médica e as novas demandas sociais, inclusive de saúde, que tiveram início nos anos 60, impuseram importantes transformações na prática médica. Tal situação tem estimulado crescente debate filosófico em torno de problemas de ética prática que não mais encontram respostas no âmbito do modelo ético hipocrático. Para os autores, a crise da ética hipocrática poderia ser caracterizada como um período de transição paradigmática em que se estaria formando um novo conjunto de valores. A partir do movimento da bioética, os autores apresentam as diferentes teorias éticas aplicadas à prática médica, concluindo que a abordagem principialista seria mais adequada à resolução dos novos dilemas morais postos à prática clínica.*

Palavras-chave *Bioética; Ética Médica; Medicina*

Introduction

What common ground can one find between the advent of the contraceptive pill and the personal computer revolution, between genetics research and civil rights movements, or between the increased level of schooling in the US population and the abortion rights movement?

All these phenomena have been observed more frequently in the last three decades, mainly in the United States, and have had either direct or indirect influence on health care in general and medical practice in particular. New social demands have been raised, whereby traditionally passive and obedient patients have been replaced gradually by health care consumers, who in principle are active and aware of their rights. We have reached a point where medicine at the turn of the century is said to be focused less on its role of curing human suffering and more on promoting 'customer satisfaction', thus launching a new era of the medicine of desires (Pellegrino, 1979).

However, this transition has not been free of conflict and uncertainty. After all, we are experiencing the age of the end of certainties, even in the field of 'hard' sciences like physics (Prigogine, 1996). As in any paradigm shift, and this is true for the transition from a traditional medical care model to a new one (still not fully consolidated), ethical tensions tend to mount.

The emergence of bioethics in the context of clinical practice has enriched the debate on changes in medical ethics, because any problem in bioethics, as suggested by Mori (1990), can be the object of at least two different levels of analysis.

At the first level, one seeks to identify the most adequate solution for a 'particular case', assuming that there is agreement as to the relevant problems involved in the problem at hand. Many of the quotidian problems faced by physicians in clinical practice are solved on the basis of traditional (Hippocratic) medical ethics. It is thus a matter of properly applying the principles in keeping with the specific situation. Yet the difficulty arises when one attempts to assess the different psychological and social conditions experienced by physicians and patients, keeping in mind that clinical knowledge does not reflect certainties, but merely probabilities. It is thus necessary to proceed to a second level of analysis.

The second level seeks to specify the very principles applied to a given case and forces one to adopt a broader analytical perspective, since the search for and specification of ethical principles define the very nature of social life.

According to Mori, the most relevant problems in contemporary bioethics are located at this second level of analysis, since "*the greatest disagreement in this area concerns the principles themselves*" (Mori, 1990:199).

The current article presents the discussion on the process of change in references for medical ethics based on the theoretical contributions of bioethics, according to the model proposed by Pellegrino (1995), characterizing this stage as a 'metamorphosis of medical ethics'.

Pertinence of the debate

Changes in medical practice caused by both the growing incorporation of technology and new social demands appear to suggest a special moment in the history of contemporary medicine. However, can we really say that we are experiencing a crisis period in the prevailing medical model and the emergence of a new biomedical paradigm? In the course of this article we seek to respond affirmatively to this question, considering the emergence of bioethics as a strong indication of just such a situation.

The term paradigm was introduced into philosophy by Kuhn in his essay *The Structure of Scientific Revolutions*, published in 1962, shedding great light on the history of sciences. According to Kuhn, paradigms are "*universally acknowledged scientific achievements which, for some period of time, provide model problems and solutions for a community of practitioners of a given science*" (Kuhn, 1996:13). In such periods of scientific development, which he calls 'normal science', the conceptual framework of a discipline (i.e., its paradigm) remains invariable and scientists are occupied in solving its problems based on the unchallenged reference of the prevailing paradigm.

Yet no matter how long these periods may last, they are not eternal, since from time to time scientists produce results that contrast with consolidated theories, thus leading to problems that cannot be solved within the prevailing paradigm. However, Kuhn emphasizes that such problems, or 'anomalies', do not necessarily lead to a paradigm shift. Yet as such anomalies accumulate, "*normal science soon becomes disoriented. And when this occurs – that is, when members of a profession can no longer avoid the anomalies that subvert existing tradition in scientific practice – extraordinary investigation begins that finally leads the profession to a new set of commitments, a new basis for the practice of science*" (Kuhn, 1996:25).

Santos (1989, 1994), in turn, in analyzing the crisis of modernity and its epistemological and societal paradigms, introduces the term *paradigm*, characterized “*by the reconceptualization of existing science as a new science, the outline of which is barely visible*” (Santos, 1989: 148). In fact, a transition period means that the prevailing model or paradigm has failed to provide answers to given problems, although its replacement is not fully established. Thus we feel that the use of the paradigm concept sheds light on the current stage of philosophical reflection concerning medical practice.

Such paradigm changes in the sciences were also observed in late 18th-century medicine. As suggested by Foucault, during that period medical research began to correlate diseases and their signs and symptoms with anatomical lesions and to define them as “*a system of analytical classes in which the element of pathological decomposition was the principle for generalizing morbid species*” (Foucault, 1994:150). From that point on, a conflict was established between two figures in medical know-how: classificatory medicine and anatomico-pathological medicine. It is interesting to note that precisely during this period of medicine the philosophical problems were the center of attention for medical debate (Wulff et al., 1995:18). As Kuhn explains: “*The emergence of new theories is generally preceded by a period of professional insecurity, since it requires the large-scale destruction of paradigms and major changes in the problems and techniques of normal science.*” (Kuhn, 1996:95)

Recourse to philosophy would thus be the means to overcome such a state of insecurity, since it “*makes us perceive our ignorance and creates the desire to overcome uncertainty*” (Chauí, 1996:90).

Once this state of insecurity has been overcome, the emerging paradigm adds more and more scientists and establishes a new period of normal science. In medicine, this new phase was characterized by technical and scientific progress, which was increasingly successful in pursuing and establishing the cure for diseases as its main purpose. Throughout this period of ‘normal science’, ethical issues were limited to the sphere of Hippocratic medical ethics.

Callahan points out that one of the values that emerged was the moral and social demand for unlimited medical progress, establishing the duty “*as if in a sacred military campaign, to always march ahead of the frontiers of medicine and dominate the disease surrounding us at the moment*” (Callahan, 1994:76).

Such determination in curing diseases and prolonging human life through advances in medical knowledge meant that beginning in the 1970s there emerged new problems that failed to find adequate answers within the Hippocratic ethical model. In the past, when physicians could do little for their patients, there were no major ethical concerns beyond those prescribed by Hippocratic tradition. However, ethical ‘issues’ could no longer be ignored when it became possible to transplant vital organs from one person to another, diagnose congenital anomalies *in utero*, and prolong the lives of incurable patients.

As Wulff et al. stress: “*The medical profession finally realizes that clinical practice is not merely an applied natural science, but that clinical decisions always entail value judgments. The result of this new awareness is that contemporary clinicians speak not only of cure and survival, but also of quality of life for their patients*” (Wulff et al., 1995:20).

The emerging ethical questions in medical practice indeed appear to indicate that the traditional medical paradigm has been challenged on the basis of a philosophical reflection that we see as a moment of paradigmatic instability, justifying the pertinence of this debate on the process of metamorphosis in medical ethics.

In the opinion of Pellegrino (1995), this pertinence is justified by the following:

1) Medical ethics, like medicine, is a synthesis of theory and practice, and the quest for solutions to practical moral decision-making problems is thus totally dependent on the conceptual framework used to define what is right and wrong, good or bad.

2) Physicians should acknowledge that philosophers and philosophical theories have exerted a powerful influence on the change in medical ethics; nonetheless, the task of ethical analysis and reflection should not be reserved exclusively for philosophers or jurists.

3) Physicians should be aware of the philosophical arguments employed by their own colleagues when they defend drastic changes in medical tradition.

Of the issues listed by the author, the one pertaining to practical moral decision-making problems may be most deserving of our attention. After all, medicine has been seen as a science that grows on the basis of isolated or pure facts, and one that is thus in a neutral position *vis-à-vis* value issues (Guillén, 1995: 192).

In fact, science, on the one hand, constitutes itself as a field that builds pertinent and true knowledge, i.e., establishes provable or

refutable enunciates. Axiological or ethical issues, on the other hand, pertain to the search for what can be judged as good according to a given time and society. As Schramm emphasizes, “*the principal practical consequence of this is that we must distinguish between scientific knowledge stricto sensu, i.e., the formulation of refutable hypotheses (and the discovery of ‘truths’ about what such knowledge is) and its technical applications*” (Schramm, 1997:208).

However, the development of science and in particular that of life and health sciences in recent decades has established a new scientific configuration. Science has literally become techno-science, that is, “*a kind of knowledge which is increasingly a rational and operational way of knowing*” (Schramm, 1997:209).

What implications does this change have for ethics? Increasingly independent from the absolute principles shared by religions and in part by the major universalist ideologies, ethics has become more applied or practical (Singer, 1994).

Thus, as Schramm highlights, “*ethics and science, although methodologically distinguishable, can also be seen as pragmatically linked*” (Schramm, 1997:209).

This new techno-scientific configuration raises challenges for medical practice based on the Hippocratic tradition. Pellegrino (1995) thus uses the term ‘metamorphosis of medical ethics’, a historical process consisting of four periods or stages, according to the author:

1st stage – begun by Hippocrates and his disciples and marked by a long period of tranquillity in which the Hippocratic tradition (enriched over the centuries by Stoicism and monotheistic religious traditions) was seen as a given, a belief prevailing until the 1960s;

2nd stage – characterized as a stage of philosophical investigation during which moral theories based on principles began to transform medical ethics (began in the 1960s and prevailed until the mid-1980s);

3rd stage – called anti-principlism, i.e., the moral theories that compete with each other and have challenged the primacy of principles; this stage, dating to the early 1980s, is now reaching its end;

4th stage – began in the 1990s, characterized as a stage of crisis in which conceptual conflicts and skepticism in moral philosophy are placing in check the notion of universal, normative ethics for medicine.

We consider the author’s classification a good working outline for organizing the discussion on the process of change observed in medical ethics, as well as for situating the emergence of bioethics in the health care scenario.

The 1st stage, or the period of tranquillity in Hippocratic ethics

The point of departure for the metamorphosis was the oath credited to Hippocrates (some 2,500 years ago) and the deontological or procedural books from the *Corpus Hippocraticum*. In fact, historical evidence suggests that the anthology called *Corpus Hippocraticum* was collated in the early third century BC under an order from Ptolemy. The compilers used limited critical spirit in their selection work, lumping a mass of excerpts, abstracts, and fragments together with legitimate masterpieces (Oliveira, 1981:75).

On the other hand, the Hippocratic oath included a major portion of the genuine moral principles and can be organized into four parts, according to its specific contents:

1) Introduction, in which the physician invokes the Greek gods Apollo, Aesculapius, Hygeia, and Panacea as witnesses to his oath;

2) Chapter 1, in which the physician accepts the commitment, together with his master, to teach the art of medicine, free of cost, to the latter’s children and other disciples taking the oath in the future;

3) Chapter 2, including the moral principles prohibiting abortion, euthanasia, surgery, and sexual relations with patients; and

4) Conclusion, reaffirming the commitment to the terms of the oath, having as one’s recompense the esteem of all men, or the opposite, should the principles be violated (Guillén, 1989: 45-71).

The principles contained in the Hippocratic oath were accepted uncritically and venerated until the mid-18th century, when there was an initial critical reading of Hippocrates’ writings by Emile Littré, in 1861 (Littré, 1861).

Until then, the principles were considered sacred, not only because they were ‘invulnerable’, but also because the physician was considered a kind of lay priest, acting in favor of nature and the gods to cure the patient under his care.

The ‘sacred’ principles of generosity, dedication, and impartiality, according to Schramm, constituted the underpinnings providing legitimacy to the medical art “*in the form of an oath linking medical know-how to a feeling of empathy and the principle of responsible freedom, making the ‘art of curing’ acceptable to the pólis, i.e., publicly*” (Schramm, 1994:326).

The decision-making method over the course of these 2,500 years consisted of judging whether a given conduct was in keeping with Hippocratic principles.

Pellegrino (1995) points out that neither ancient nor modern philosophers devoted their attention to a systematic ethical justification of the physician-patient relationship on which to base physicians' decisions and patients' well-being. Neither was there any significant change during this period as medical ethics entered into contact with the main monotheistic religious traditions.

Among the latter, Christianity played an outstanding role in shaping Western thinking. In early Christian religion, diseases were viewed as divine punishment or instruments to test a follower's faith, thus denying the natural origins of illnesses. The dichotomy between the art of curing founded on the Hippocratic tradition and Christian religion was first challenged by the ideas introduced under the theological doctrine of Saint Augustine of Tagaste (340-430 AD), reconciling Christianity with classic culture, drawing it progressively closer to lay philosophy and thus allowing for a conjunction of 'science' and religion (Antunes, 1991:49-50).

The physician's moral authority, based on Hippocratic values, which persisted throughout the Middle Ages (reinforced by Christianity), was gradually replaced by legal authority beginning in the 16th century. This legal authority, with the modern state as its paradigmatic framework, was based on the concept of legally defined competence.

Guillén (1994) emphasizes that from the mid-17th century to the present at least three different types of human rights were developed:

- '1st generation' or civil and political rights;
- '2nd generation' or economic, social, and cultural rights;
- '3rd generation' or ecological rights and those of future generations.

All three types of rights bear a close relationship to health and constitute the basis for classic ethical principles.

The first rights, or those of the first generation, began with the publication of John Locke's *Two Treatises on Civil Government* in 1690 (*apud* Guillén, 1994), laying the groundwork for the modern theory of human rights. According to Locke, in the natural state, when human beings had still not established the social pact with which civilized life began, life was regulated by a primary law, i.e., natural law, making all human beings their own masters. The importance of Locke's work was based on the following: a) for the first time a table of civil and political rights had been drafted, including the right to life, the right to health, the right to freedom of conscience, and the right to prop-

erty; b) such rights were individual, and their achievement depended exclusively on individual initiative; and, c) the rights proposed by Locke imposed duties on ourselves, thus having a positive value. As stressed by Guillén, "*In the final analysis, our ultimate duty to ourselves is to lead our lives to perfection and to achieve happiness: the most 'positive' duty one could imagine*" (Guillén, 1994:32).

The medical profession was thus cloaked in legal authority in the context of constituting the modern state, based on legally defined competence, thus meaning that the profession should possess an objectively outlined set of duties and services, the allocation of the necessary powers for their realization, and the close definition of admissible sanctions and the presupposition of their application in such cases (Guillén, 1989:86).

The Hippocratic ethical tradition did not have any of its principles challenged until the mid-1960s. From then on doubts began to emerge concerning the traditional moral underpinnings of society as a whole and medicine in particular, thus opening the way for critical questioning.

The 2nd stage, or the emergence of bioethics and principlism

The questioning of medical ethics was partially due to the widespread upheaval in moral values in the United States throughout the 1960s. As a decade of mass demonstrations and social transformations, it was characterized mainly by a higher educational level for the American people, expansion of democratic participation led by the civil rights and feminist movements, as well as consumer activism, a decline in shared community values, increased emphasis on different ethnic origins, and widespread distrust towards authorities and institutions in general. In addition, the very meaning of medicine underwent changes through the specialization, fragmentation, institutionalization, and depersonalization of health care. The number and complexity of problems in medical ethics also grew as medical technology raised new moral challenges to traditional values.

The demand to legalize abortion led by the feminist movement in the 1960s was one of the moments of greatest social polarization in the United States, contrary to some European countries, where the debate was limited to the political and legal spheres. In the United States, the morality of abortion came under discussion, since physicians themselves often had

trouble judging certain clinical cases (Mori, 1994:334).

In addition, this same period also witnessed growing concern over possible abuses by the power of science over the lives of individuals, mainly after the work of Katz was published in 1972. An American psychiatrist, Jay Katz performed a historical work-up of biomedical sciences with regard to abuses in scientific experimentation on human beings (Katz, 1972). For the first time there was a public exposé of cases that were to become paradigmatic in the awareness of the need to place limits on scientific practice. Three cases received the most attention:

1) A research project on 600 African American men from Tuskegee, Alabama, from 1932 to 1972, came to be known as the 'bad blood' case. The researchers withheld information and proper available treatment (penicillin) from 399 carriers of the disease in order to study its long-term effects. The principle of informed consent, which had already been formulated in the Nuremberg Declaration in 1947, was flagrantly breached, compounding what was also an explicit case of racial and social prejudice. The experiment was not interrupted until 1973, after being exposed a year before on the front page of the *New York Times*.

2) Another case involved the injection of live liver cancer cells in 1964 in 22 elderly patients at the Jewish Chronic Disease Hospital in Brooklyn, New York. In this case the physicians also believed that they could perform any kind of research as long as it was (supposedly) to benefit scientific progress, but in fact the patients were not sufficiently and adequately informed so as to provide their informed consent. The physicians were declared guilty of breach of professional ethics, fraud, and malpractice.

3) Approximately 700 to 800 severely retarded children at the Willowbrook State School for the Retarded from 1956 to 1970 were intentionally infected with hepatitis virus.

Katz' work had broad repercussions on public opinion in the United States in the early 1970s and helped fuel the bioethics movement.

In 1966, Harvard Medical School professor Henry K. Beecher had already published an article showing that in North American clinical practice, abuses were common against the health and life of patients submitted to scientific research, despite formal recognition of the principles of non-maleficence, beneficence, and informed consent, aimed at protecting the subjects of scientific research (Nuremberg Code, 1947, *apud* Annas & Grodin, 1992). He

had also demonstrated how abuses were committed almost exclusively against socially vulnerable individuals such as prison inmates, the diseased, the mentally ill, soldiers, and members of ethnic minorities, thereby breaching another principle of bioethics, that of justice (Beecher, 1966).

It was also in the 1960s and 70s that major technological innovations occurred in the biomedical field which raised further major ethical challenges. The following are some of the more important examples:

a) the work of James Watson and Francis Crick, who discovered the structure of genetic material, leading to the development of special techniques allowing for the precise mapping of each gene and serving as the basis for the most ambitious research project undertaken by humankind, the Human Genome Project (HGP), the hub of debate involving a number of serious ethical issues pertaining to all of society (Thomasma & Kushner, 1996);

b) the first heart transplant, performed in 1967 by Christian Barnard, sparking a debate over the origin of the organ, the donor's explicit desire (or lack thereof) to donate, and the very concept of death; and

c) the problems raised by the impossibility of making dialysis universally accessible. This last issue became emblematic of the dilemma in choosing between who could have access to new technology for chronic hemodialysis and who would be excluded from it. This occurred in Seattle in 1962, and the difficult choice led to the formation of a small committee, most of whom were non-physicians. The criteria chosen for selecting patients most in need of hemodialysis caused considerable controversy to the extent that they were not limited to clinical aspects. Thus, "*Only after much protest and numerous demands, a federal program was approved in 1973 making dialysis accessible to everyone, based exclusively on clinical criteria*" (Berlinguer, 1996:93).

In this context of widely renewed interest in ethical phenomena in general and the gradual yet widespread introduction of knowledge and techniques in the biomedical sciences, the term bioethics was coined by oncologist Van Rensselaer Potter in 1970 and publicized in this book *Bioethics: Bridge to the Future* in the year 1971. According to Potter, bioethics was a 'new science' aimed at guiding human beings in their relationship to nature. It was to be a kind of new 'scientific ethics' aimed at guaranteeing human survival and quality of life, focusing on development and population problems, embracing the emerging problems in the field of

health. According to Potter, biology, which is currently extending its horizons beyond the traditional descriptive sphere, should also include norms and values in its own field of investigation.

Potter's professional experience as oncologist was crucial to his stance, since he realized that the links between the various types of cancers and deteriorating environmental conditions in general (but especially in the workplace) were beyond the measures traditionally employed by the sphere of medicine. It was thus necessary to develop a 'global ethics' including humankind's relationship to the environment (Reich, 1995:21).

Yet the term bioethics took on a different meaning from that originally proposed by Potter. This change was linked to the creation of the Kennedy Institute for the Study of Human Reproduction and Bioethics in 1971, where bioethics was not considered a 'scientific ethics', but rather ethics applied to a new field of study, the medical and biological field (Mori, 1994:34).

During this period, Beauchamp & Childress (1994) adapted the theory of *prima facie* principles developed by Ross. Sir David Ross had published a famous book, *The Right and the Good*, in the 1930s, contending that moral life had grown out of given principles that were basic and self-evident for all of Western society (Ross, 1930). Yet these principles were not mandatory or absolute; rather, they should be considered *prima facie*, i.e., admitting exceptions under specific circumstances.

Ross also established a hierarchy amongst the principles of justice, non-maleficence, and beneficence. In his opinion, the principle of non-maleficence took priority over that of beneficence (Guillén, 1995). The reason was that all individuals, in principle, had the obligation to not harm other individuals, while the obligation to do somebody good was limited to certain professions, like medicine.

By adapting Ross' principles, Beauchamp & Childress (1994) acknowledged that there were a number of difficulties to overcome in order to reach a consensus on the most important issues in ethics.

The *prima facie* principles chosen were the following: non-maleficence, beneficence, autonomy, and justice. These four fundamental moral ideas share the merit of being compatible with the main theoretical currents of deontology and consequentialism. Deontology (from the Greek root *deontos*, meaning 'duty' and *logos*, or 'study') was the basis for the development of medical deontology, a discipline deal-

ing with the range of obligations physicians have towards their 'professional world': patients, patients' families, society in general, professional colleagues, the state (Segre, 1995:27). Consequentialism, meanwhile, derives from the utilitarianism of John Stuart Mill and Jeremy Bentham, comprising a set of ethical doctrines that measure the goodness or evil of acts based on their beneficial or maleficent consequences (Guisán, 1992:277). These two philosophical schools exerted great influence on ethical theories as applied to health.

The four principles scheme is attractive for clinical practice for the following reasons: 1) It provides quite specific orientation for the clinical act. 2) It offers an organized way of framing an ethical problem, analogous to clinical work-up leading to diagnosis or that of a therapeutic strategy. 3) It allows for a direct approach to certain problems causing great disagreement, like abortion, euthanasia, and a number of other problems where consensus seemed impossible (Pellegrino, 1995:26).

The principles of non-maleficence and beneficence were in keeping with the Hippocratic obligations of always acting in such a way as to avoid causing harm (*primum non nocere*) and to take the patient's well-being into account (*bonum facere*). On the other hand, the principles of autonomy and justice were new, and in a certain sense they appeared to run against traditional ethics, based on medical paternalism and authoritarianism.

The autonomy principle has only been accepted by physicians in recent years because it is essential for free, informed consent and is also in keeping with the North American individualist tradition, with its emphasis on privacy and self-determination. In the opinion of Pellegrino (1995), it was one of the most powerful driving social forces in the metamorphosis of medical ethics.

Of the four principles, that of justice is the one that most departs from traditional medical ethics. It entered the scenario first through physicians' forensic duties and more recently due to disparities in the distribution of health care.

While Beauchamp & Childress viewed the four principles as not having an *a priori* hierarchy, Guillén (1995) proposed to divide them into two levels: the private *sphere* or *level*, including the principles of beneficence and autonomy, and the public *sphere*, including the principles of justice and non-maleficence. According to the author, public duties take priority over private ones, since public duties are part of the "*classic procedural principle, long present in the*

legal and ethical tradition, which affirms the superiority of the common good over the private in case of conflict between them" (Guillén, 1995:197).

Still, we do not view this hierarchical division between public and private duties as the central issue in the debate over 'principlism', which is usually translated into Portuguese as *principalismo*, but which we propose to translate as *principialismo* (with an *i* as indicated), to avoid the derivation from *principal* and to mark the derivation from *princípios*, since the four principles were originally proposed to be applied not automatically, but rather to be adjusted to each given case, that is, within their specific context.

Since the principles are *prima facie*, transgression of any one of them must be justified. Beauchamp & Childress proposed four basic conditions for justifying transgression of a principle or *prima facie* obligation a) the moral object on which it is based should be realistic; b) no morally preferable alternative should be available; c) one should seek the lesser transgression; and d) the agent should take measures to minimize the effects of the transgression (Beauchamp & Childress, 1994:34).

The four principles theory was the target of objections and attempts to overcome it based on new theoretical contributions. This flourish of new theories dealing with the ethical dilemmas in medical practice would be the third stage in the metamorphosis of medical ethics.

The 3rd Stage, or the Period of Antiprinciplism

This period was characterized by critiques of the four principles theory, or so-called principlism (Clouser & Gert, 1990). It launched the debate over the theoretical contributions needed to base medical decisions in an increasingly complex scenario of health care work. Despite the debate not being resolved, we review the main bioethical schools questioning the proposals by Beauchamp & Childress in order to allow us to take a critical stance towards this stage in the metamorphosis of medical ethics.

According to Clouser & Gert, the four principles lack a solid theoretical base, observing that the principles emerged as *ad hoc* constructs "*It looks as if each principle simply focuses on the key aspect of some leading theory of ethics: justice from Rawls, consequences from Mill, autonomy from Kant, and non-maleficence from Gert. Thus they represent some historically important emphases, but without the*

underlying theories and worse, without an adequate unifying theory to coordinate and integrate these separate, albeit essential, features of morality" (Clouser, 1995:224).

The authors thus propose, as an alternative to principlism, a common morality, "*with its rules and ideals, which in turn are grounded in aspects of human nature. As such, morality must be understood to be a rational, impartial, and public system that is incumbent on everyone*" (Clouser, 1995:219). Based on common morality, the authors propose that a study of the morality experienced in the daily lives of individuals could constitute the outline for the moral domain. This domain should thus become the object of study and theoretical foundations. They emphasize that the central thrust of professional ethics includes the various interpretations of general moral rules and that the building of such theoretical foundations should contribute to improve these same ethics (Clouser, 1995:235).

We view the common morality espoused by Clouser & Gert as a pretense of returning to a stage prior to principlism. We do not feel it is possible to define a universal moral theory capable of establishing consensus in a context of plurality in which tolerance is weighed against authoritarianism, the latter being incompatible with democratic societies.

Another line of thought in bioethics has been developed by Hugo Tristram Engelhardt Jr., espousing a radical understanding of ethics in the secular context of Western societies. His most important work, *The Foundations of Bioethics*, published for the first time in 1986, was considered a libertarian paradigm (Neves, 1996:12). Inspired by the philosophical tradition of North American liberalism (in the defense of rights and individual property), Engelhardt Jr. placed the principle of autonomy in the first order of priority. His proposals not only allow one to justify actions resulting from the patient's expression of free will, but also help justify the body as individual property, thus providing legitimacy for the sale of organs and blood. The controversy arising out of interpretations by other authors may have led him in the 2nd edition (Engelhardt Jr., 1996) to reformulate the priority ascribed to the principle of autonomy, replacing it with the principle of permission, through free and informed consent. In the author's words: "*Because secular morality cannot provide a canonical vision of the good or a canonical content-full account of proper action, the principle of permission is the cardinal source of moral authority*" (Engelhardt Jr., 1996:288).

Free and informed consent, the basis for the principle of autonomy, has been considered the cause of the greatest changes occurring in the physician-patient relationship.

The individualist focus taken by Engelhardt Jr. contrasted with the model of the theory of 'virtue' (*Virtue-Based Normative Ethics*) developed by Pellegrino & Thomasma (1988). Based on the Greek, Aristotelian tradition of an ethics of virtue, the authors turn the focus on the agent, especially health care professionals, while taking care to fully integrate the patient into the diagnostic and therapeutic decision-making process.

Pellegrino (1995) contends that medical theory developed under three phenomena in relation to cure: 1) the disease; 2) the health professional's action; and 3) the act of cure. (Pellegrino, 1995) The first phenomenon means that when people experience physical and psychological symptoms, they believe that they need help. In this context of vulnerability, physicians and nurses ask the patient, "How can I help you?". Implicit in this question is the commitment that such professionals have the necessary knowledge to help and cure the patient. The act of curing, in turn, directs knowledge and techniques in such a way as to help the particular patient. It is the *telos* in the relationship between the health professional and the patient, i.e., restoration of health and containment or cure of the disease.

What are the virtues of health professionals? Despite admitting difficulty in defining a 'good professional', the author lists some essential virtues for proper professional practice: a) faithfulness to the trust deposited in them; b) benevolence; c) compassion; d) freedom from self-interest; e) intellectual honesty; and f) justice and prudence (Pellegrino, 1995).

The author's analytical perspective is particularly pertinent for cases of mercantilism or refusal to treat certain cases (AIDS, highly contagious diseases, various types of discrimination, etc.). The unresolved issue is how to awaken the value of virtue in health professionals in situations that are often adverse to good clinical practice.

The care model proposed by Gilligan (1982) compares the care value of expression, which the author contends is typically female, with that of justice, expressly male, and proposes to employ it as the main thrust for the development of professional ethics in health.

Another idea that merits attention is the casuistic model proposed by Albert Jonsen and Stephen Toulmin in 1988. The authors recommend a case-by-case analysis, without basing

decisions on any *a priori* principles to orient action. In their opinion, the theoretical framework, i.e., ethical theory, is built on cases and remodeled from time to time (Jonsen, 1996: 251). Thus, the paradigmatic characteristics of each case must be examined, establishing comparisons and analogies with other cases.

In our view, amongst the various alternatives presented thus far, principlism provides the best conditions for decision-making in biomedical practice. The four principles approach is not intended to dictate absolute rules or norms for moral conduct. On the contrary, it identifies basic *prima facie* principles that should be weighed for each specific situation. According to the authors defending principlism, such principles do not aim to eliminate conflicts, amongst other reasons because it appears difficult to find a moral guideline that would anticipate all possible situations (Beauchamp, 1994:9) The principles should thus be seen as a set of guidelines to aid decision-making, making flexible, tolerant ethical professional stances possible.

Pellegrino adds that despite the limits of principlism, the principles will probably not disappear, since: a) every ethical system has principles, at least implicitly; b) any theory presenting itself as an alternative to principlism will have other severe limitations; c) the need for and usefulness of principles become clearer to the extent that we attempt to apply other theories to concrete cases; and d) the principles are not intrinsically incompatible with other theories (Pellegrino, 1995:29). Besides, we would add, there is nothing to prevent other principles from being added to the list of four, if this should prove necessary in the future.

The 4th Stage, or the period of crisis: the immediate future

This fourth stage is characterized by a strong dose of nihilism and skepticism in contemporary philosophy and ethics. The position results from a very specific reading of authors like Nietzsche, Heidegger, Rorty, and Derrida by Pellegrino, according to whom they have in common the notion that one single truth is merely an illusion.

One could thus say that there is a kind of radical relativism leading one to think that medical ethics is a Western product incompatible with other cultures as pertains to the issue of autonomy.

However, Pellegrino himself casts a relative light on this reading of our contemporary reali-

ty as applied to the discussion of medical ethics, since the universal nature of the disease/cure phenomenon and medicine's medium- and long-term objectives lead to hope for reaching a more solid basis for the principles, rules, virtues, and moral psychology of medical ethics than in any other ethical domain.

Viewed from this perspective, clinical bioethics is one of the hopeful signs. The field is still not fully defined, but it proposes to approach the realities of moral options faced by health professionals in their daily work: "*It is not at all clear where the continuing metamorphosis of medical ethics will lead us in future years, given the problematic current state of philosophy and ethics itself (...) A continuing dialogue with the moral philosophers is a requisite for physicians not to lose the benefits deriving from a rigorous and critical analysis of their own decisions. Medical ethics is too old and essential to the lives of physicians, patients, and society at large and should not be abandoned to either the vicissitudes of philosophical styles or the unfounded assertions of physicians*" (Pellegrino, 1995:32-33).

Conclusions

In the contemporary Western world, technological changes are accompanied by new social and cultural attitudes making the individual the main decision-making authority on issues relating to life-style values and personal goals. Thus one of modern society's fundamental characteristics is a plurality of ideas and values, leading educated citizens and clients and providers of services to reach tacit agreements over the risks and benefits provided by given services, especially health services.

As emphasized by Cherry, "*The fragmented character of modern contemporary society leads us to re-examine the institutional roles and norms of medical practice*" (Cherry, 1996:367).

The emergence of bioethics in this context sparks a discussion of ethics for the practical field of the relationship between biomedical science and society. As pointed out quite appropriately by Kottow, bioethics was born as a

contingent discipline, i.e., required by concrete dilemmas demanding analysis and solution (Kottow, 1995:81).

The current article stresses that the bioethics movement is not limited to changes in medical practice stemming from the growing incorporation of technology or to use a more specific term, "*biotechnosciences*" (Schramm, 1996:114). We emphasize that one of the fundamental factors in the process of change was the wave of mass social mobilizations in the 1960s, placing society in a participant, decision-making position rather than in a mere spectator's role vis-à-vis the changes for which it is both subject and object. Participation by the social body in the bioethics movement requires both a deepening and radicalization of participant democracy and broader access to formal and informal educational means. Brazil's social indicators, especially those related to education (Almeida, 1996), suggest that much remains to be done to achieve effective social participation in the debate over bioethical problems.

In the sphere of medical ethics, the principlist approach appears to be the most adequate for solving the dilemmas posed by clinical practice, since it serves as a guideline given the impossibility of shaping a unitarian, universally accepted ethical theory in plural, democratic societies.

In addition, the necessarily multidisciplinary and transdisciplinary nature of bioethics has allowed it to include other approaches, enriching medical ethics and broadening its analytical horizons.

Finally, it is our belief that the bioethical debate applied to clinical practice must be deepened as an urgent condition for medical ethics in particular and health-related ethics in general in shaping health services in keeping with Brazilian society's real aspirations and possibilities.

In short, the emergence of bioethics in the field of biomedical sciences demands that society in general and the health professions in particular engage in a deep reflection on the new ethical dilemmas which in the final analysis will define the kind of society we build for the future.

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