

BIOPOLITICS - THE BIO-ENVIRONMENT THE NEW ETHICS FOR SURVIVAL

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Renaissance of the human spirit

Technology expands the horizons of understanding and widens the spectrum of thought to include not only the cosmos, but also to reveal the infinite beauty of the microcosmos -the human genome. Genetic engineering is helping to unravel the most intricate and beautiful script – the script of life. Like an open book, previously encoded and inaccessible, the human genome is now unravelling its mysteries. It is not only feasible to read this wondrous book, we now have the option of intervening and altering the text. It may be impossible to forecast the future impact of genetic engineering. Is it opening Pandora's box by leading to unforeseen adversity or can it become, with the guidance of biocentric ethics and values, an implement for the protection of life?

The aim of the present document is to focus on the pressing need to acknowledge bios – life – and the bio-environment as the most potent factors that can influence progress in genetic engineering, and to anticipate the impact this can have on our future survival on this planet. The aim is also to bring attention to biocentric ethics as an important aspiration for society, and to present initiatives that respect and protect life.

With increasing knowledge comes greater responsibility and greater awareness. Currently, the environment is at grave risk. It would be an oversight not to consider the urgency of channelling every effort towards its appreciation and protection. How can the human genome be safe, how can human rights be secured on a constantly deteriorating planet?

Legislators and international institutions are trying to devise the correct context for the evaluation of human genome questions. Issues of bioethics, scientific research appropriateness and human rights are becoming the pivot points of discussions and legislative backgrounds. In this effort, consideration should be given to the role the environment can play in determining the future of humanity, and decisions should be made based on the interdependency among all forms of life. The human genome, human rights and all the biomedical issues arising from the advancement of science cannot be treated in isolation. The environment, as a common point of reference, can provide a powerful link and lead to the comprehensive treatment of the challenges we face.

Bioethics is an essential part of Biopolitics and has been addressed extensively. A reference to conventional bioethics issues (death and euthanasia, artificial insemination and fertilisation, organ and tissue transplant etc.) from the point of view of Biopolitics can be found at the end of this document. However, in view of the urgent need to curb environmental deterioration and to secure the rights of future generations, the promotion of bio-ethics as the foundation for the peaceful and harmonious co-evolution of humanity and the environment is presently a priority for B.I.O.

Environmental destruction is currently threatening life and cannot be left unharnessed. Human beings cannot be safe on a constantly deteriorating planet. Deterioration is not only an offence to aesthetic values, but places the future of humanity at stake. On the threshold of the third millennium, the issue of bios is growing in complexity. More than just the appreciation and protection of the environment, in all its varied manifestations, humanity will have to confront fundamental moral, legal and political dilemmas resulting from cumulative technological advancements. These advancements could be life-enhancing or life-threatening depending on our ability to understand their various implications, as well as our readiness to preserve the common good. The urgent task ahead is to inform the public regarding these challenges, so as to be morally and mentally prepared to face the uncertainties ahead.

In order to avoid a robot-like, mechanistic society, human creativity needs to be channelled towards an inspired and productive "renaissance." Technology and the arts, coupled with a sound system of values, provide ample opportunities for growth and can lead to the blossoming of the human spirit. Spiritual wealth and a reassessment of the concept of profit will help humanity to exit its present crisis of values and can serve as messages of hope and encouragement. Applying human potential towards respecting the environment and all forms of life, will guarantee a society made up of responsible and affected citizens. Humanity can be "reborn" once we acknowledge the value of bios.

Biocentric ethics

The Biopolitics International Organisation (B.I.O.) was created out of love for life and the belief that this precious gift is a link that unites all people. Our planet is only a small part of the universe. Our galaxy contains over one hundred billion stars, and there exist billions of other galaxies. From what we know, up to the present, life is found only on our planet. Thus we possess the most precious gift of Creation.

Galaxy or galaxies are small dimensions not infinity
Neutrons are small very small not infinity
And what am I
a neutron to the galaxy
or a galaxy to the neutron?

(A. Vlavianos-Arvanitis, Oscillations, 1983)

The study of life can be a continuous source of joy for all humanity. It is our duty to appreciate life and the environment and rejoice in their beauty and in all their varied manifestations. All living things, from the smallest butterfly to the tallest tree, reflect perfection in their splendour. Life at the cell level is the most vivid expression of this perfection and a constant reminder that bios is an ongoing process, revealed to us by the miracle of life. The dynamic process of life is unveiled through the intricate stages of differentiation and gene expression, a wondrous chain of events that cannot but leave us in awe. However, threats to the environment are endangering life and are jeopardising the very existence of future generations. Respecting biodiversity and protecting the natural environment are therefore crucial to our survival.

New biocentric ethics and a deep sense of responsibility need to govern our every action and thought. Concern and consideration for life should become the leading principle in every initiative. Within this framework, a re-assessment of priorities in society, on the basis of improving quality of life on the entire planet, is of the essence. Every human endeavour can contribute to the challenging task of reversing destructive trends, by

focusing on the value of spirituality and internal wealth, and the fundamental human right of living in a clean environment. Better public health, the alleviation of poverty and the conservation of biodiversity constitutes a genuine profit for society, on a global level.

From a philosophical perspective, biocentric ethics are closely related to the principle of reverence for life. Of paramount importance is the concept that any individual is of unique, absolute value, a principle entailing increased responsibilities for all. The pressing problem of our time concerns the fate of the environment, currently endangered by human activities, a problem with a strong ethical dimension. As human beings, we depend on all the other forms of life on Earth. How, then, can we reconcile our existence with the rapid deterioration of the environment? In order to achieve the attitudinal changes desired, the intrinsic unity of human and non-human life must be emphasised.

Bio-assessment of technology

Present society resembles an inverted pyramid, with human rights representing the tip and technology expanding the unstable base. This imbalance could be changed if we "re-invert" the pyramid and place the rights of all life as the wide base of our society. Human rights will then occupy the stable tip of the structure. The survival of humanity depends on our ability to exit the present crisis of values, brought on by negative and destructive behaviours. Technology has served as a revelation of the truth, but it has also created new needs in society. The rapid rate of progress provides the ascending ladder of knowledge and the bridge linking the present and the future. Therefore, technological progress has to be geared towards protecting the environment and guaranteeing the rights of future generations. As the efforts to decipher the human genome are nearing completion, our horizons are widened and we become increasingly aware not only of the enormous beauty and diversity of life, but also of the fragile interdependence of all forms of life. Awareness of this responsibility and of the need to defend the bio-environment can lead us to a brighter future.

Positive elements have to prevail over short-sighted greed. Technology can contribute numerous benefits, but progress has to be evaluated on the basis of protecting life on our planet. A comprehensive bio-assessment of technology, guided by a millennium vision in decision-making, can bridge the gap between technological progress and societal values. In a dialectic exchange of views experts in respective fields can present a thesis and antithesis, leading to synthesis of new biocentric values for the millennium. Within this framework, respect for the environment and all forms of life on our planet will be emphasised.

Bio-culture

The relationship between human culture and the environment is becoming increasingly important in our times. The environment is affected by our culture, which is, in turn, shaped by the bio-environment. Bio-culture represents the conscious effort of humanity to reach this interdependence. Aesthetic values, music, science, the arts, diplomacy, politics, business and trade can all come together in the struggle for a better quality of life. In all its facets, bio-culture reflects the spirit of bios as a powerful unifying factor for the future co-evolution of humanity with the bio-environment and the harmonious co-existence of all forms of life. Furthermore, bio-culture can provide the necessary incentives for every endeavour to be governed by biocentric principles and orient toward the better understanding and preservation of bios on our planet.

But more than just a simple orientation toward biocentric principles, bio-culture is a manifestation of life. Bios, with all its intricacies and wonders, can be a source of joy and inspiration. New cultural values, for a global appreciation of bios, can help the world acknowledge the importance of environmental preservation and the urgency of taking action against negative trends. Bio-culture can also provide the ethical guidelines for a reassessment of current assumptions and a critical evaluation of the future. The hope is that present regional conflicts will be alleviated and incompatibilities between environmental harmony and economic growth reconciled. Once the world acknowledges the importance of safeguarding bios the most precious possession our planet, embracing bio-cultural values will become the only viable alternative.

Working to sustain what already exists is not enough. With new challenges constantly arising and with an increased awareness of the urgent need to take action against destructive trends, the time is ripe to find more comprehensive, long-term solutions to protect our planet and guarantee a balanced society for the future. A new vision, beyond sustainable development, can help place the situation in perspective, and provide the necessary incentives to move ahead and explore possibilities leading to more just and safe global management.

World Referendum

In this crucial endeavour, it is essential to have global participation. Up to now, even in democratic regimes, citizens rarely speak out as a majority and are often overshadowed by the presumptuous attitudes of arrogant minorities. Present breakthroughs in the field of communication technology can provide the opportunity for the public to be actively involved in issues concerning our daily lives and be able to cast a vote, anytime, through computer networks and communication link-ups, which can make immediate feedback possible from any corner of the globe. A World Referendum on the commitment to protect the bio-environmental can be the manifestation of such an attempt, with many more dimensions to follow. These dimensions can open up new pathways for a participatory democracy, where opinions will be actively expressed and politicians will no longer be able to evade their responsibilities.

We are moving into a truly interdependent world, where communication is vital to development. Information technology can bring the world together. The mass media have the power to influence and the power to educate, and this power should be applied to guarantee peace and international co-operation, eliminating isolation and division. It also has the potential to raise the necessary global awareness of the urgent need to take action against environmental destruction and abuse. The direct and efficient exchange of information, can allow for world-wide simultaneous participation in the attempt to preserve bios on our planet.

Bio-legislation - defending the rights of future generations

Human obligations - linking human rights to environmental preservation

The central concept of bio-legislation, regarded as an integral part of Biopolitics, is to link the protection of bios rights to the defence of the rights of future generations. Furthermore, bio-legislation acknowledges that in addition to "human rights" there exists a series of "human obligations" geared toward our common responsibility to preserve the environment and improve quality of life on a global level. It is, therefore, essential for international legislation to make explicit reference to the protection of bios

on our planet and for current environmental acts to be expanded upon and re-evaluated.

The interdependency between human rights and human obligations is vital in this context. Rights correspond to obligations and to secure the harmonious development of society we have to acknowledge certain important responsibilities. The defence of human rights should not be regarded as an issue unrelated to the protection of other forms of life on our planet. Health hazards arising from environmental degradation and pollution, desertification, depletion of natural resources, water scarcity and famine are a threat to the human species. To secure our rights and to prevent disaster, we need to urgently take on the responsibility of reversing negative trends and protecting our natural heritage.

Normative regulations must take full account of these issues, both locally and globally. Bio-environmental considerations should become one of the determining - if not decisive - factors of decision-making at every possible level. It must also be realised that environmental protection is the only option for securing development in the future. International instruments for the protection of the human genome must include relevant provisions for public education, training and information regarding the interdependency between humanity and the environment. Some pointers are included below.

Bios rights

To secure the protection and appreciation of life, it is important to promote the development of international legislation on bios rights, applicable to all living organisms. These rights can be broken down into the following categories:

- authorisation of the right to live: to exist on Earth, to give birth to the progeny
- satisfaction of the needs of different forms of life, the improvement of their quality of life
- preservation and the further enhancement of biodiversity

As living beings can be subdivided into humans, animals, plants and micro-organisms, we can separately regard:

- Human Rights. Any human being must be granted the right to enjoy all forms of bios. Humanity should also have the right, along with all the other forms of bios, to be protected against destructive effects caused to the global environment (global warming, ozone layer depletion, pollution, etc.)
- Animal Rights, Cruel treatment of animals, part of the laboratory routine in the past, was eradicated in most laboratories after the introduction of new legislation on experiments with animals in the 1970s and 1980s. Detailed protocols concerning humane rules of animal research were developed world-wide. Numerous powerful movements of animal friends and defenders of animal rights took shape in different countries, some identifying themselves with bioethics, the issue which the struggle for animal rights undoubtedly represents.
- Plant Rights, Besides their unsurpassed beauty, plants are very sensitive to the slightest perturbation of their environment. They can, for example, serve as reliable bio-indicators of heavy metal contamination. They also have powerful medicinal properties, most of them much more effective than those of synthetic substances. The plants on earth form a sophisticated network of global flora. The oxygen released by this network is vital for all other forms of life. Additionally, the O₂ produced by the plants is partly converted to O₃ - ozone - in the upper

layers of the atmosphere, which protects the earth from the harmful effects of ultraviolet radiation.

- Microbial Rights. Micro-organisms are performing extremely important functions in food and feed production, in plant protection against insects and pests, in energy production and decontamination of the environment. The advances of microbiological genetics has enabled the biotechnologists to establish real bio-factories with the aid of some microbial species such as *Escherichia coli*. This bacterium has been engineered to produce low-cost human insulin, among other things, and will undoubtedly help people fight diabetes.

In accordance with the idea of bios rights, the following additions and amendments to legislation now in force are to be considered and, if deemed useful, authorised and enacted: (a) explicit reference to the bios concept in the laws, constitutions and codes of states and international political organisations; (b) expansion of legislation concerning environmental protection and its formulation in terms of bios; (c) official authorisation of the basic rights of bios in the right to live on Earth; (d) development of judicial codes and references on issues involving the above rights.

Legislation on genetic engineering and biomedical issues

The rapid development of genetic engineering, artificial insemination, in vitro fertilisation and other related techniques, calls for the elaboration of legislation concerning the application of all these techniques, in particular to human beings. This new legislation should be aimed at both stimulating these developments for the benefit of both bios and humankind and at preventing potential risks and hazards, such as unwanted release of abnormal organisms into the environment. With regard to the biomedical applications of the above methods, the following guidelines can be considered:

- enactment of a comprehensive legislation protecting personal freedom
- enactment of laws regulating the use of foetal/embryonic materials for purposes other than medical treatment or scientific research relevant to health care
- development of regulations covering the uses of human organs and tissues for medical purposes and research with due consideration to commercial and property issues relating to human materials
- elaboration of the rights of parents, spouses and other family members vis-à-vis donation of the organs of a deceased person, as well as the rights of a person to give, in advance, consent to donating organs in case of a fatal accident
- clear, unambiguous formulation of the duties of surgeons and other medical personnel, with regard to delivering information on the risks and hazards associated with organ transplantation, as well as of the long-term effects of this surgical operation
- clarification of the legal questions pertaining to medical bioethics, more detailed consideration of the confidentiality between doctors, patients and family members
- elaboration of a system of laws dealing with death and euthanasia, in light of the latest scientific and medical developments, including attitudinal changes

Impact of biotechnology

Apart from the genetic engineering issues mentioned above, biotechnology in general should be considered a powerful factor which can contribute to environmental protection and global development. Currently, biotechnology is acquiring new dimensions not

confined to the production of material goods. Investigations of the beneficial effects of plant and animal organisms on human health and the environment are in progress. These developments call for careful investigation and a well-balanced judicial formulation of ideas on the beneficial influence of communication between humanity and the diverse forms of bios.

Bio-economics: new ethics in economics and business

Environmental destruction is still cheap, because the world has not yet endorsed bios as the real wealth of humanity. A three-dimensional approach to economic development, featuring the environment as the core of all structural and fundamental economic policies, could help to redefine the concept of profit so that it focuses more on internal wealth, preservation of natural resources as a measurable part of a nation's prosperity, better health and the protection of biodiversity, dimensions which constitute a "genuine" profit for society.

Within the framework of this endeavour, environmental protection and respect for the gift of life must evolve into a more expansive concept and become part and parcel of the dominant social and economic paradigm, with the business world fully sharing in these concerns. The business world should also acknowledge that there is a need to promote practical solutions which combine social and environmental ethics and responsibility with efficient operations. Serving the community, cleaning up the environment, and respecting life, come back in the form of greater employee commitment, customer loyalty, and improved public relations.

With society being increasingly concerned and with a growing involvement with business ethics in political and academic circles, business must be seen to behave responsibly so as to earn the trust of its stakeholders. The effect of good business ethics is global and "profitable." Equitable and bio-ethical economic development and resource sustainability protect the environment and help to create financially healthy companies in the process.

Bio-diplomacy – defence for the environment and bios

Bio-diplomacy – international co-operation in environmental protection – is a concept pioneered by B.I.O. at a time when civic leaders, international organisations and the world community as whole had not fully realised the urgency of adopting common environmental policy as a priority. It focuses on the interdependence of all forms of life and calls upon diplomats and people of influence to engage in a collective endeavour in defence of the environment. Joint efforts to protect the environment can enhance international relations and act as a bridge between global impetus and decision-making at the national and local levels. The ethics of this endeavour entails a number of different elements and the solution lies in a deeper understanding of our responsibilities as human beings on this planet.

Bio-education for a global ethical responsibility

To reach a new state of the world, education is key. Biocentric ethics cannot be applied if humanity is not sensitised to the need of incorporating the dimensions of bios into every academic and professional initiative. An integrated biocentric education, that secures lifelong environmental literacy for every citizen in the world, is a necessary vehicle for the successful furtherance of a global appreciation of bios.

Bearing in mind that universities should be, by definition, "universal," the International University for the Bio-Environment (I.U.B.E.), launched by the Biopolitics International Organisation in 1990, promotes a model bio-education, by introducing interdisciplinary educational reforms, on a world-wide basis. It provides a new educational challenge, fighting the trend towards over-specialisation and seeking to open up all areas of study and training to an appreciation of life on our planet.

The I U.B.E. is based on a Visiting Scholars Program, whereby leading educators and decision makers from around the world will infuse existing educational institutions with new bios promoting values and ethics. The aim is for the I.U.B.E. to become a world-calibre initiative for the development of multidisciplinary environmental concepts, beyond the confines of conventional environmental science, leading to a revised educational system for the entire planet. Major goals of the I.U.B.E. include:

- international educational reforms and the promotion of an efficient, global bio-education, through the Internet and the use of satellites and other communication links
- international co-operation for environmental protection, leading to a new era of bio-diplomacy
- international legislation on bios rights
- the re-evaluation of business and management concepts and the development of new economic strategies, compatible with environmental preservation
- an international campaign for Environmental Olympics and the award of Bios Prizes to "individuals or institutions that have contributed to the preservation and appreciation of the bio-environment"
- raising public awareness of the ramifications of the biological sciences
- a global bio-assessment of technology, to ensure technological and economic progress that support the bio-environment, and to help bridge the gap between technological progress and societal values

Environmental Olympics – Bios Prizes – “athlos” as an intellectual achievement

In the quest for new societal values for the next millennium, a revival of the ancient Olympic spirit can contribute unity and harmony to the development of every aspect of human endeavour. The Olympic Games, held in Greece for over ten centuries, constituted important political and cultural events, promoting a unifying vision of peace, kinmanship and reconciliation. Currently, the Olympics, a beacon of world peace and hope, award medals only for physical prowess. Moreover, the concept of athletics has become synonymous with sports and feats of the body. Yet we should be reminded that the word “athlos,” means achievement. Therefore, the term athletics encompasses all possible achievements of humanity, whether physical or intellectual. It is thus important that the concept regain its original significance and become redefined, on the basis of a new system of values.

In order to promote incentives for environmental protection and a global bio-culture for the new millennium, B.I.O. has been proposing the development of multidisciplinary international committees, assigned with assessing progress and awarding Bios Prizes to individuals, or institutions, that have significantly contributed to the preservation and appreciation of the bio-environment.

At present, international competitions take place in various fields, but represent a fragmented view of human achievement. In order to re-establish the harmony and unity behind all expressions of creativity, an overall recognition and award of achievement in

sports, arts, and science may be carried out simultaneously, every four years, on the occasion of the Olympic Games. For example, legislators could be awarded for developing new legislation regarding bios rights; architects, for having worked in the construction of "biopolis" models; as should corporate leaders, for including environmental protection in their business activities. Prizes could be awarded in several disciplines, such as ethics, legislation, economics, business, theology, architecture, diplomacy, or philosophy, with the hope to eventually include all human accomplishments.

Cease fire

The Olympiads should be periods of world peace and occasions for all citizens to celebrate the unifying concepts brought forth by the Olympic spirit. At the same time, the global community can be sensitised to the value of a harmonious co-existence as a vehicle for achieving a better quality of life. Within the spirit of bio-culture, B.I.O. has been promoting the revival of the ancient ideal of cease-fire during the Olympics, a proposal recently adopted as a UN resolution. The hope is that the bio-environment will act as a unifying force for peace, leading to a new social structure, where respect for bios will be at the core of every action and thought.

Classical bioethics and the views of Biopolitics

B.I.O. builds upon the concept of classical bioethics with the goal to: (a) develop the ethical and philosophical foundations for the harmonious co-evolution of humanity and bio-environment; (b) evoke an ethical responsibility towards bios rights; (c) increase the understanding of the interdependence between all forms of life; (d) elucidate the moral issues arising from the applications of modern biotechnology; and, (e) sensitise the public to the need of anticipating the future ethical dilemmas caused by technological progress. As concerns the issues conventionally tackled by bioethics, B.I.O. has the following viewpoints to contribute.

Human embryo/foetus: bioethical implications

There is a strong tendency in modern society to attribute bios rights to a developing human being from the early embryonic stages. Historically, the status of the embryo was the centre of major controversy. In ancient Greece, the Stoic philosophers denied that an embryo/foetus represented an entity independent of the mother's organism. They associated the beginning of a new human life with the first breath of a new-born child. At the same time, the Platonic school of philosophy regarded an embryo as possessing ontological autonomy. The latter view was then supported by the Christians, in particular by Tertullian, who, therefore, considered abortion an instance of homicide, because "a man-to-be was also a man." In the Byzantine Canon law, a developing embryo acquired the status of a being endowed with rights.

The status of an embryo/foetus is still at issue nowadays. Under consideration are the rights of the developing individual at all stages. A well-grounded attitude towards the embryo consists of attributing the embryo the status of a prospective human being. In this case, an embryo is legally protected like any human being.

These ethical issues involve the use of embryonic/foetal tissue for the treatment of a number of diseases, for research or other purposes. It is known that foetal tissue can be used in the treatment of Parkinson's and Alzheimer's disease, sickle cell anaemia and diabetes. A special concern is the commercialisation of embryonic materials, which has

already caused women in less developed countries to sell their foetus. As an example, according to Act 42/1988 of the King of Spain, Juan Carlos I, the use of foetal/embryonic material for purposes other than medical treatment and diagnostics, or scientific research relevant to health care is to be considered by the legislative bodies. It is in their field of competence to decide whether or not to authorise a research project involving a foetus or embryo.

The attitude towards abortion depends on the status attributed to the embryo. Legislation on this matter differs from country to country. However, even staunch adherents of the idea of banning abortion cannot ignore the following issues:

- Should abortion be recommended in cases where lethal diseases, serious handicaps such as Down's syndrome, or incurable lesions are found? Currently, abortion is practiced in these cases. The introduction of genetic diagnostics will considerably exacerbate this problem.
- Should abortion be permitted if the child is undesired and/or no proper conditions for nurturing it can be created; in Romania, prohibition of abortion resulted in the emergence of a whole generation of children deprived of proper care.

The abortion issue becomes still more complex if we consider its effects on the woman's body. Not the rights of the embryo, but the concern for the woman's health, was until recently the main reason for a doctor to dissuade a woman from resorting to abortion.

Another controversial point is whether or not it is legally permissible to store human embryos using cryoconservation. This problem arises if fertilisation of an ovum is carried out in vitro. Should the embryos produced "in excess" of demand be cryopreserved? Considering cryoconservation leads to the discussion of the bioethical issues of artificial insemination and fertilisation, the modern techniques involving both embryo-right problems and the issues pertaining to the other agents involved.

Bioethics in relation to artificial insemination and fertilisation

There is a general tendency towards a decrease in human semen viability, observed since the 1950s. Changes in the environment, food habits, dress and life-styles may account for this problem. This unfavourable tendency manifests itself in the increased incidence of male infertility, although females may also be infertile. This condition calls for medical intervention in cases where pregnancy is desired.

The artificial insemination technique has been successfully employed for several decades. It was introduced in Belgium in the mid 1960s, using either the sperm of the spouse, or that of a donor. More recently, methods have been employed which involve donated ova or embryos which have yielded encouraging, although limited, results.

The ethical implications of these scientific innovations are complex. Generally speaking, none of the techniques considered should be rejected a priori, although each situation that arises has to be carefully analysed. The following bioethical guidelines can be drawn to assist all those involved with artificial insemination or in vitro fertilisation:

- The independence and right of free choice of every human being are to be safeguarded. In choosing, people are to be consulted, correctly informed and assisted by the family planning centre members, who, however, should not make decisions on their behalf.

- As this matter involves a number of individuals - the future child, the potential parents, the sperm/ovum donor, the assisting personnel, the doctor - the interests of all are- to be duly considered.
- Emphasis should also be placed on the child's future. Therefore, the ability of the potential parents to satisfy the material and spiritual needs of the child, and to ensure its harmonious development is to be considered.
- Should a donor sex cell be used, the donor is to remain anonymous, the biological truth being of no importance.

The benefits of artificial insemination/fertilisation should outweigh the potential medical and psychological risks: this is a prerequisite for carrying out these procedures. Also, the following principles ought to be introduced:

- non-generalisation - each problem is to be regarded from different points of view
- non-identification - as situations and people are more complicated than any system of categories, it is recommended to avoid categorisation, unless necessary
- self-reflection - one should assume conscious control over one's impulses

Death and euthanasia

The progress of science has changed our attitude towards death. If the brain of an individual has been established to be "dead," the organs and tissues may be used for the benefit of those needing them. Whereas the legal problems associated with the condition of brain death have been, for the most part, overcome with the enactment of detailed regulations, the bioethical issues still remain, especially if religious concepts are implicated. In addition, especially in the case of a cerebral trauma, it may be extremely difficult, if at all possible, to unequivocally establish that the loss of brain activity is irreversible. What if some insignificant electrical activity is registered?

More recently, the notion of neocortical death has been introduced. This entails the chronic vegetative state: complete unconsciousness with retained physiological functions and open eyes. In some instances, no doctor can predict the final result. After many months spent in the state described, people occasionally regain consciousness, which suggests that neocortical death may be an erroneous diagnosis. In the condition of akinetic mutism, only the frontal region of the brain is impaired, but no contact can be established with the patient.

The ethical status of these situations remains unclear. Distinctions should be made among:

- assistance to the dying person: relieving suffering through administering pain-mitigating medicines, and altering the state of consciousness of the person
- orthothanasia: letting the incurably diseased person "die their own death" while making no extra efforts to prolong their life
- passive euthanasia: refraining from any medical treatment aimed at retarding death
- active euthanasia: terminating a person's life in a painless way, at their request, and with the intention to prevent the person from suffering
- assisting suicide: helping a person take their own life

These problems have recently caused special concern due to a high incidence of severe diseases, such as cancer or perturbations of cerebral blood circulation, which lead to an

incurable, irreversible state associated with prolonged periods of suffering. However, the intertwining legal and bioethical problems remain a matter of controversy. Euthanasia is considered equivalent to murder in the legislation of a number of countries, such as France. At the same time, French legislation does not regard assistance in suicide as punishable. A law drafted recently, suggested by the Criminal Law Revision Committee in the UK, permits passive euthanasia by interrupting medical treatment, as in the case of irreversible coma. British law, however, makes no distinction between assisted suicide and murder. These differences in legislation highlight the complexity of the bioethical problems still awaiting a solution.

Human organs and tissues in terms of bioethics

The progress in cell and tissue culture has raised the ethico-judicial issue concerning the ownership of the tissues/cells maintained in vitro. Are they the property of the donor or of those using them for culture?

The property issues are closely related to the issue of the legitimacy, or otherwise, of trade in human organs and tissues. The predominant trend of thought, currently, is to put a ban on human organ and tissue commercialisation. However, alternatives to distributing parts of the human body through their commercialisation still have not been sufficiently developed.

A kidney donor is left with a single kidney after the transplant. Whether attracted by the financial reward offered by kidney donation, or desires to save a relative's life, the moral and legal duty of the doctor is to properly inform the volunteer of the possible risks associated with organ donation.

Other vital human organs currently transplanted - heart, liver and pancreas – do not exist as duplicates, like kidneys. The ensuing bioethical issue is that a person included in a waiting-list for an organ transplant is actually waiting for another person to die. This donor should preferably be a healthy young person, whose sudden death is usually due to an accident. One issue with both legal and ethical dimensions involves the rights of the family members vis-à-vis transplantation of the organs of the deceased. Do they have the right to decide whether or not to use the organs of their relative? These serious ethical questions are, to a great extent, removed, if the donor's consent for organ transplantation has been previously given. By consenting in advance to the use of the organs for the benefit of others, a person makes an extremely important bioethical decision, as they are ready to help others realise their fight to live.

Peace and global harmony in the next millennium

Technology has induced the expansion of every field of human endeavour. Continuous innovation and development, as well as fluidity in the structure of society due to changing social goals, make the identification of priorities and proper educational perspectives difficult. The emerging global economy ascertains the future requirements for society. While we are becoming interested in economic growth, there is also an increased awareness of the need for a better quality of life. On the brink of the 21st century, the timely implementation of biocentric ethics is of the essence.

To allow for the blossoming of the human spirit, we need to acknowledge that bios, with all its intricacies and wonders, can be a source of joy and inspiration. New values, for a global appreciation of life, can help us take action against negative trends and re-examine current assumptions with a vision for the future. Our maturity and survival will

depend on our ability to assimilate the explosive progress of technology and acknowledge the generous gift of Creation. Within this framework, ethics, spirituality and technology can co-develop and enrich each other with positive new dimensions. In celebration of life, waves of light, waves of music and communication can provide hope and encouragement to help us face the challenges of the new millennium.

Within the framework of this new set of ethics, the global community has to learn the joy of sharing. It is not to anyone's advantage to separate the world into developed and under-developed regions. Poverty and the unequal distribution of resources not only affects the countries that suffer most by it, but threatens the stability of the entire planet. It is up to us to render the concept of a "Third World" obsolete and work together to reconcile environmental harmony with the need for economic prosperity and growth.

In this crucial endeavour, the current concept of consumerism has to change. Profit needs to be re-evaluated, on the basis of bioethics, and conventional two-dimensional quantitative trends need to be replaced by a three-dimensional qualitative approach, where the issue of quality of life will assume priority. In this scheme, appreciation of the wonderful gift of life can become the driving force for the implementation of new models, leading to an optimistic, life-supporting structure for society.

Political systems have come and gone, financial regimes have succeeded and failed, but life, in unlimited varieties and forms, has existed for millions of years. The environment is, therefore, the most powerful agent for the attainment of world peace and stability. The pursuit of peace through the development of concrete action plans for world-wide co-operation on environmental conservation, can alleviate conflict and division and contribute to a new era of international understanding. By enacting these principles and evaluating future policy-planning on the basis of bio-centric criteria, we may succeed in the quest for world security and order. Biocentric values hold the key to our future. If we all adopt bioethics as our guide, then perhaps global peace will become a reality in the 21st century.

Harmony

With wings of the soul
I touch the golden waves of infinity
around, heavenly beauty like light
sparkles rays with colours of flowers
whispers the soil, awakens the earth
not like a mother, just like a daughter
of the cycle of wear
and the infinite of the eternal
the melody of the universe
is surrounded by the rhythm of harmony

(A. Vlavianos-Arvanitis, Oscillations, 1983)

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