

## BIOPOLITICS - THE BIOS THEORY

### [Dr. Agni Vlavianos-Arvanitis](#)

President and Founder

Biopolitics International Organisation

Greece

Many people believe that humanity lives in an era of decline. A global shadow of environmental threats shows the approaching dangers that threaten our very existence. Bios (life) has evolved in hundreds of millions of years. We need to awaken our appreciation to this enormous gift, as we are arriving at the threshold of the next millennium. Our ripening into maturity and survival will depend on our ability to assimilate the explosive progress of technology towards a new culture webbed with unifying values and based on a better understanding and respect of bios rights. Bios rights provide the opportunity to see the future with new vision, allowing for technology to be seen as the revelation of the truth. The different areas of the globe need not be seen as privileged or underprivileged, developed or underdeveloped, North or South. Bios provides a unifying force where humans may co-exist in harmony with animals and plants. As the horizons of vision are widened, we become more aware not only of the enormous beauty and diversity of bios but also of the fragile interdependence of all forms of life. The rising awareness of responsibility could allow for positive and cohesive forces to lead us into a bright future. Progress in technology will gradually enable us to unveil the spectrum of the rainbow of knowledge.

In an effort to bridge the gap between technological progress and societal values, Biopolitics International Organisation proposes the "Bios Theory" which promotes the implementation of the following:

- international cooperation for the better understanding of bios (life). Parallel to internal problems, nations will have an international task. Advanced nations could undertake a world educational campaign through communication satellites to increase public awareness on issues such as health and the environment. International legislation on "Bios Rights" may provide a code of action in cases when bios is threatened. A leadership arena will be required. A group of accepted world leaders should be allowed to interfere.
- the dialectic approach in handling international problems by placing as its center the need for assessment of technology in all fields of human endeavor. The rapid growth of information opens new dimensions and expands human thought. Technological advances are shaking the foundations of our private and public existence. Ethical values, the social structure, national and international issues, as well as legislation, have to be re-examined in view of the new perspectives provided by recent advances. In order to establish the dimensions of progress in relation to the improvement of bios, the "bio-assessment" of technology has become an urgent need. Achievements of modern technology need to be used for the improvement of bios. Scientists, academicians and philosophers, as well as every individual, may bequeath their thoughts to a Bank of Ideas.
- Greece is proposed as the ideal meeting place for people from all specialties to meet and assess progress and values. Every corner of Greece, depending on its cultural contribution to mankind, may serve as the meeting place for providing the needed new dimensions. For example, Patmos, the island of the Apostle John, may serve as the meeting place for theologians to examine the effects of technology on religion and propose future values for bios. Icaria as a meeting place for aeronautical engineers. Mythology, history and tradition, as well as modern technology, may combine to provide a future based on a perspective of hope, as well as respect for creation.
- the sensitization of public opinion, so that more people will realize that progress in the biological sciences relates to their own specific field of interest. The impact of this progress may open new fields of human endeavor such as bio-legislation, bio-environment, bio-literature, bio-linguistics, bio-economics, bio-communication, bio-history, bio-education and bio-diplomacy.
- the development of a bio-syllabus and new curriculum materials for pre-school, elementary, middle and higher levels of education. Universities and colleges are being encouraged to review their curricula and include the "Bios Theory" in the study of theology, law, political science, the arts, business and economics. Already, several educational institutions have included Biopolitics as a course or major.

Technological achievements seem almost unreal, as though rapid progress images mythology. Mythology has returned. Technology, today's Prometheus, with sensitivity and prophecy, provides light and fire and crusades for the revelation of the seeds of truth by making possible the advent of a new era. In the drama of history, present technology closes the curtains on the scenes of the ancient world and introduces a panoramic view of the march of knowledge.

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, bios exists only on our planet. We thus possess the most precious gift of creation.

After studying the macrocosmos and the microcosmos one wonders:

"Galaxy or galaxies  
are small dimensions  
not infinity

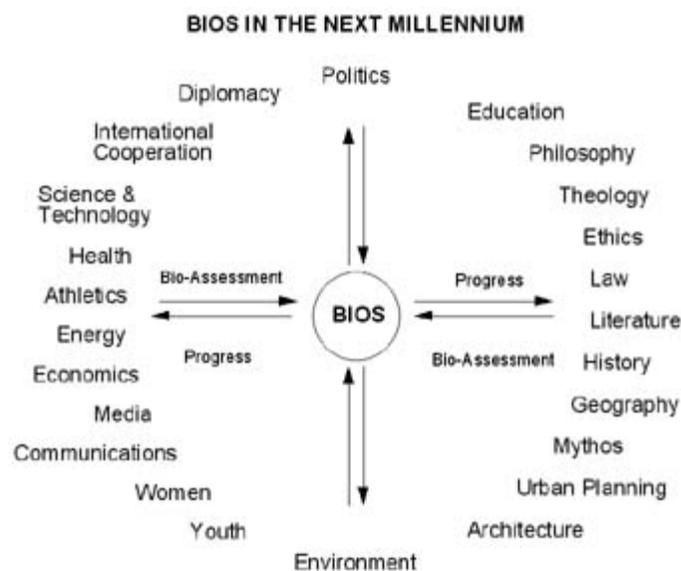
Neutrons are small  
very small  
not infinity

And what am I  
a neutron to the galaxy  
or a galaxy to the neutron?"

Dr. Agni Vlavianos-Arvanitis, Oscillations, 1983.)

With accelerated progress and escalating technology scientists expedite discoveries; however, entropy, the tendency to disorder, increases through rapid exploitation of resources and pollution. In order to harness this trend, biology can provide a model for the improvement of the quality of life. A study of bios leads to a better grasp of the meaning of life. Dimensions of biology seem to reach a new perspective - "biopolitics". Bios is the most precious possession on earth. We cannot take risks which may result in the loss of this great gift due to small local problems that may quickly pass national boundaries and create global threats.

Human history can be traced back a few thousand years only. During this period, several political models have been developed. Tyranny and democracy are among the older ones and now new terms like "socialism", "communism" and "capitalism" are added as alternative models of human society. The history of life, however, extends several hundred million years. Life has been tested in unlimited varieties and the most viable species have survived through the powerful selection of evolution. It is for this reason that bios can become the source of inspiration for attaining the desired dimensions and expanding strategies for future society.



### Bio-Education

We are all aware of the need to assess values and methods of our educational systems. The immense technological progress has introduced a series of dynamic changes in society and education. The conquest of the moon, and the achievement of our technological goals, made many decision makers wonder whether the pendulum of progress was not swinging too fast. We need to focus our attention on bios problems. These require even more careful handling than scientific problems. Educational institutions today have again a very active and delicate role to play in our modern society. Maybe the role is to change the angry youth into a happy one and to change the divided world into a friendly, united globe.

After all, we have conquered outer space and if we look at our planet from a spaceship, it looks beautiful and united. We cannot explain why people have set up lines as national boundaries, speak different languages, need to have different educational systems. Even though technology has freed us from our borders and enabled us to leave our planet and our atmosphere, we still have not progressed enough to see our role not only in our village, town, city or country, but our role as members of this globe which need not be seen as privileged or underprivileged, developed or underdeveloped. Bios provides a unifying force where humans may co-exist in harmony with animals and plants.

Technology has provided an expansion in every field of human endeavor. Continuous innovation and development as well as fluidity in the structure of society, due to changing social goals, cause difficulties in identifying priorities and maintaining proper educational perspectives. Economy serves individual needs and ascertains the future requirements for society. While people today are becoming interested in growth there is a rising awareness of the importance of the quality of life. Education may act as a catalyst and help resolve national and international problems by allowing the assimilation of progress and expansion into the building of a harmonious respect for all forms of life.

In order to fulfill our role in modern society, we need to intensify our efforts in understanding and identifying today's problems by constructing our "Model Global Bio-Education", to provide not only new educational methods and techniques but to expand our scopes in every static idea and value.

Studies in biopolitics could lead to an innovative approach to educational systems and pedagogical methods. Close collaboration and open communication channels may establish links at both national and international levels. Groups can work together and promote interdisciplinary approaches with relevance to methodology. In order to review the present status of education at all levels, bio-education needs to be encouraged.

There is an urgent need to incorporate the values of appreciation and better understanding of bios at all levels of education. The effort will be to incorporate the progress of the biological sciences in fields such as theology, philosophy, diplomacy, economics, law, media etc., since technology may be viewed as the revelation of the truth and as a pathway leading to a better future.

Present society resembles an inverted pyramid, with human rights representing the tip and technology expanding the unstable base which stands in the air. This imbalance may be changed if we invert the pyramid and place bios rights as the wide base of our society. Human rights will then occupy the stable tip of the pyramid.

The problem lies not only in the proper training but also in the choice of priorities. Competent people may organize, disseminate and select information on societal needs, establish criteria for bios rights, maintain the belief in human rights and ideals so as to advance knowledge and use it for the good of mankind.

The bio-assessment of technology as proposed in the goals of B.I.O. will be based on a dialectic exchange of views in every field of human endeavor by considering as the central core of ideas the respect and appreciation of bios. The thesis and antithesis, as presented in every respective field by experts in a dialectic approach, may lead to the synthesis of future societal values. Existing systems will gradually be substituted with innovations. Alternative bio-education may provide solutions and raise our sensitivity on the appreciation of bios.

The decisive role of education raises our concern on the assessment of needs and choice of priorities leading to the formulation of educational strategies. Social needs are becoming pressing and communication media expand the awareness of existing threats to bios.

Educational philosophy seems closer to classical ideals than to present realities. We should already have international educational programs. Specialists exploring the possibilities of such programs could provide feasibility studies, and make possible the implementation of such policies within the very near future. The propagation of knowledge obtained through mass media, the press, radio, television, satellites, could help overcome underdevelopment and thus contribute to quantitative and qualitative educational development throughout the world.

Satellites may be used for the simultaneous education of all people in order to promote a better understanding of bios. Information on animals, plants, bacteria and the structure of the cell, nutrition, environment, health and disease may lead to the realization of the harmony of life and the greater respect of this fragile, unique gift we possess. A worldwide educational campaign would assure the preservation of bios and a revision of curriculum may provide a perspective of hope for the next millennium.

The outline of a bios curriculum will encourage specific action and foster activities providing a dynamic balance between the old and the new by making gradual transitions based on continuous revision and improvement.

Biopolitics International Organisation plans to hold its Third International Conference on Curriculum Revision. Decision makers will meet in order to initiate a worldwide bio-syllabus for all levels of education. The effort will be to incorporate the progress of the biological sciences in fields such as theology, philosophy, diplomacy, economics, law, media etc., since technology may be viewed as a pathway leading to a better future.

While setting the long-range philosophy of bio-education, immediate changes are needed to be incorporated in pre-school, primary, secondary, university and post-university education. This bio-syllabus will outline a curriculum and encourage specific action towards: the media for newspapers to incorporate a daily bios column and satellite stations to initiate a worldwide education campaign on bios; universities to incorporate new dimensions and new values as a central core in the curriculum; elementary and high school education; community action; decision-makers sensitization.

There is a popular saying that the best school is society. Therefore, the ideal educational system adapts to the societal needs. Since society is

flexible and dynamic, educational systems have to be continuously revised. By the time proposals and studies are implemented they tend to be already outdated. The more man understands his possession of the most unique gift of the universe, bios, the more successful will become the reducing of wastage in education, in fulfilling the needs of the community, the country or the world.

The present threats to bios are international problems and the required solutions relate to the development of educational activities for peace and international understanding. Bio-diplomacy could enhance international cooperation on environmental issues and facilitate the active seeking of solutions to problems that require prompt and decisive action. Strengthening of bio-education will have to focus on the issues and allow us to gradually crystallize proposals leading to the implementation of these goals. Bio-education may thus contribute to the solution of societal problems by bridging the gap between technological progress and societal values.

### **Bio-Legislation**

In order to envisage a more harmonious existence in the future, bio-legislators will need to develop the framework regarding rights of every living species. Bios Rights could secure a feeling of interdependence of humans with all forms of life and thus reduce the destruction of the bio-environment.

Intense efforts are under way to decipher the human genome. This enormous task of determining the sequence of three billion nucleotides and identifying over 100,000 individual genes will cost several hundred million dollars but will completely revolutionize our concept of health and disease. Over 4,000 diseases will be identified in the fetus by comparing its DNA with normal sequences. This science fiction-like plan will be realized before the end of the century. Many ethical questions arise. Bio-lawyers and bio-legislators will be facing daily challenges such as:

- Should abortion be allowed in case lethal diseases are identified in the fetus? Presently, when Down's syndrome is identified, pregnancy is stopped. What will be done when close to 4,000 diseases are identified
- Does a potential human being possess rights from the stage of the fertilized egg, the three-month embryo, the fetus, the newborn baby? If so, should research on artificial insemination and other technological interferences in fertility be banned, or should further research be promoted, thus improving our understanding of health and disease?
- Rumours already exist about Third World women selling their fetuses. Transplant of fetal tissue removed during abortion provides hope for Parkinson's and Alzheimer's disease, sickle cell anemia and diabetes.
- Sex-testing of embryos through amniocentesis or ultrasound examination have raised fears of abortions among certain cultures. Centrifuge separation of male producing or female producing sperm may induce additional problems.
- Are human tissues and cells our property or do they belong to the laboratory to where they have been donated?
- Can patent law protect the discoverer of new biotechnology products?
- Is the human genome to be patented, or is scientific progress the revelation of natural truth belonging to everyone?

In order to allow for the incorporation of new values with the perspective and vision required for the future, enlightened bio-legislators will be required. Legislators with limited technological criteria will be inefficient. New ethical problems are created by the rapid advance of the biological sciences. It is an urgent need to include the study of biology in fields such as law, political, economic and social sciences. Without informed and educated vision it will be difficult to decide on new legislations and construct the framework of future societal system.

### **Bio-Literature**

Literature may serve as the best pathway to propagate understanding and induce inspiration on the appreciation and preservation of bios. All literature deals with bios, but a new awareness may be required to accentuate the joy we may derive from this enormous gift. No moment goes by without writing the most glorious volumes of literature, higher in caliber than any masterpiece of human creation. Every cell synthesizes trillions of molecules. The words spelled by the cell, like proteins, may require as many as a thousand letters each. It suffices for one letter to be misplaced and thus cause the difference between health and disease. Order prevails in the composition of all these volumes of bios literature composed every second by cells. This composition strengthens our understanding of the ongoing process of dynamic harmony.

Theologians, artists, authors, may channel their creativity and promote international cooperation on bios, this ongoing miracle, as revealed by our new perspectives provided by technology.

### **Bio-Economy**

The participation of a country in the progress of the biological sciences may be considered as a barometer measuring the future social and economic development. The ramifications of the biological sciences have an immediate impact on the economy and may be named "bio-economy". This should not be considered as a theoretical idea but a need for competitiveness and progress.

In order to make more visible the new technical, social and economic horizons opened by biopolitics, some ramifications of biology will be mentioned in areas such as health, agriculture, the arts, athletics, etc.

## **Bio-Agriculture**

Knowledge of genetics and biotechnology leads to the improvement of agricultural products. Competition in the selling of wheat means "I give wheat and get gold in return; and thus I control the international economy". In relation to nutrition, we need to think of over 40,000 children who die daily from hunger.

Bio-agriculture has become a multi-billion dollar a year market. Some examples are given in order to comprehend the new dimensions that are being provided:

- It is now possible to insert complete groups of genes into plants and animals.
- Green plants are being transformed to turn out such medicinal and industrial substances as insulin, oils, fragrances and flavors.
- Strawberry-flavor content has been vastly enhanced by inserted genes.
- An increased yield of natural vanillin has been realized.
- Sunflower seeds may be used to produce oil with a higher proportion of ingredients useful in lubricants and plastics.
- Disease-free potato seeds are used to plant an acre with no more than a pound of seed, instead of the ton of tubers that were needed up to the present. Seeds do not rot in storage and cut potato growers' costs.
- Plants could incorporate growth genes from trees to make them faster maturing and more productive.
- New plants are being developed - their leaves become assembly lines for producing high-value oil or flavors. Other plants can be made as nutritious as eggs without the cholesterol.
- Genes for natural electroluminescence from fireflies and deepwater bacteria have now been identified and will soon be transferred in plant cells.

Biotechnology will offer over-abundant food. New plants resistant to disease and providing better crops are already being produced. Intense competition in obtaining better know-how of biological mechanisms is leading to enormous profits in animal breeding, milk production, wine making and flower marketing.

Bio-economists need to analyze the significant contribution and impact of these new technologies.

## **Bio-Athletics**

The "bios theory" proposes the revival of the Olympic spirit shifting athletic competition from the present gladiator-like style to a balanced expression of the body and the mind and a wholesome respect of bios. Healthy mind in healthy body was the philosophy of classical Greek schools. Emphasis was placed in training young people to read and write, study Homer and history, become familiar with theatre, learn music, train citizens for participating in democracy, and providing athletic training so that their city could be honoured by winning in the Olympic Games. The above ideals seem highly desirable even today, but today's society has become a great deal more complex. The role of education has been altered, and needs to be further revised in order to allow for incorporation of technological progress and the revival of ethical values.

In the Olympics, athletes reach high levels of performance. It seems as though the full potential of the human body has been reached. However, with more information derived from brain research, great improvements have been obtained. Biofeedback can also be used for attention control and focusing power. Computers provide model performance by simultaneous analysis of brain waves and muscular coordination. Improved understanding in sport science can be used not only by Olympic athletes but also by the general public. Recent research in athletic science has led to overall health improvements.

## **Bio-Architecture**

In fields such as architecture, the beehive, termite nests, cell membrane or other organelles could be structural models for bio-architecture in the future. Bio-materials have been tested and have survived the selection of several hundred million years. For civil engineers bio-materials such as collagen and cellulose could be useful in construction.

A new bio-material with adhesive properties extracted from some molluscs will soon be used for avoiding oxidation and for the repair of ships. It will also be used in surgery for the adhesion of bones or skin and in dentistry for the permanent placement of dentures. At present, 3 million molluscs are needed for the production of 1kg of the material. But the genes responsible for the production of this material have already been isolated. They will be transferred to bacteria so as to produce this new material inexpensively and in large quantities.

The structure of biological systems as exposed through the unravelling of the microcosmos may provide new dimensions in architectural models and in city planning. In the future, "Biopolis" may resolve many of the present city problems and stimulate the search for new balanced dimensions based on bios models.

## **Bio-Arts**

Like most creators, artists seek a source of inspiration. Biology, with its stunning features and hidden mysteries, can surely serve that purpose. Throughout the centuries art has reflected the study of nature. In this respect, bio-art is not an innovation. Already painters have peered down the microscope to discover a completely new world of existence. The recent opening of the microcosmos provides unlimited sources of inspiration for artistic expressions in the future. Artists with better understanding of biomolecular structures may provide new dimensions for artistic expression.

Photography and music are constantly drawing inspiration from nature. But up to the present, artistic expressions have been based mainly on visual and acoustic effects. The sense of smell has not been used as extensively. How would it be if one would admire the painting of a battle field and simultaneously hear battle cries or smell gunpowder? More information on the feelings of animals may provide inspiration for the development of bio-theater.

### **Bio-Defense**

The sense of smell could be investigated further in relation to defense. Radars and radios transmit information based on sight and sound. However, insects, by using their sense of smell, identify their mates or enemies from miles away. This "individualized" recognition system based on the sense of smell still remains unexploited. Cells also have this capability. In man at least one million different antibodies exist to distinguish the specific enemy and utilize "individualized" defense. This does not eliminate the parallel existence of a generalized response by lysosomes or white blood cells.

### **Bio-Energy**

In the search for new sources of energy, we need to turn our attention to plants. We cannot sit in the sun and "synthesize a bun". Plants, however, convert solar energy directly into food and oxygen. Diesel motor oil is already being used from the extracts of oil-producing plants. Recently some bacteria have been found to produce the most expensive fuel, hydrogen. Japanese scientists cultivate bacteria that feed on inexpensive cellulose and produce hydrogen.

### **Bio-Communications, Bio-Computers and Bio-Linguistics**

In the future, biology can serve as a model for computer memory storage and the processing of information. Another source of thought could be provided by creating a "Bank of Ideas" where scientists, academicians and philosophers as well as every individual may bequeath their thoughts and achievements.

By searching for the true function of brain cells, it may become possible to discover the mechanism by which cells store memory data in the form of abstract thoughts. Once this has been achieved, the same system of chemical storage of thought may be introduced into computers, thus widening the scope of analysis.

Every stimulation of sight, smell or hearing creates electric waves. These waves are transmitted through neurons to the synapses where they become converted to chemical secretions of neurotransmitters. Every neuron contains about 100,000 synapses, which constitute the bridge to other neurons. The number of neurons in the human brain is estimated to exceed 100 billion. There are more neurons in the brain than stars in our galaxy.

10 billion calculations per second are required for every image to reach the optic nerve. With improved understanding of the mechanism of sight, robots are already being produced. These robots recognize the color of the ripe oranges and collect 300 oranges per minute. They will soon be used in many branches of agriculture and industry.

The study of hearing provides an improved understanding of animal communication. We learn about the songs of the whale and the language of dolphins. Acoustic waves are being analyzed by computers, so as to make possible automatic translation. Soon one will speak on the telephone in French in Switzerland and Japanese in Japan. Acoustic waves will be analyzed and translated automatically by a "speaking computer".

In relation to the sense of smell, every individual has a specific genetically determined odour, like he has specific fingerprints. In a few years computers will analyze the odour and recognize the individual.

Presently immediate help may be provided to potential heart attack victims by "Medphone", a "transtelephonic defibrillator" connecting the hospital to the home of a high-risk patient.

### **Bio-Medicine**

When the wheel was discovered, it must have been difficult to predict the endless chains of cars found in the streets of modern cities. A similar revolution is taking place today in biology and medicine. Until a few years ago, medicine was based on the study of symptoms, the

diagnosis and the corresponding treatment. At present, genetic engineering provides a revolutionary approach to medicine due to the understanding of the biological mechanism of disease.

Genetic engineering opens the horizon for prenatal diagnosis. It provides the possibility for changing the genetic code and transferring human genes in bacteria. Bacteria are thus converted into factories for the production of human proteins. For example, insulin extracted from animal tissues had high cost and small effectiveness. Today bacteria are producing human insulin at low cost. Silk-worms are used to turn out hepatitis B vaccine with improved efficiency. An appropriate gene was inserted into the worms, which produce the protein for the vaccine.

Genetic engineering is providing accelerated hopes for the cure of cancer. In addition to accepted treatments like surgery, radiation, chemotherapy and interferon, new hopes have been provided by:

- changing gene expression
- highly specific stains extracted from algae provide specific and fast diagnosis especially during the operation.
- interleucine 2 that strengthens the body's defense system.
- following the fractionation of genes in millions of parts, scientists have transferred these fractions to bacteria. They were able to produce a new protein called "colony stimulating factor" that mobilizes the body's defense system and provides new hopes even in terminal cases.
- a new diagnostic method for early detection is now available. NMR machines are used in detecting specific lipoproteins in blood.

### **The Bio-Environment**

As long as people feel that the environment is detached from them they do not relate it to their own life. The environment includes bios. Every plant that is destroyed, every animal that becomes extinct, every micro-organism dying from pollution breaks the chain of the continuity of bios. It is for this reason that the bio-environment can contribute to a new perspective and places the responsibility in the hands of every one of us to promote the respect for bios. Only through international cooperation and bio-diplomacy can this obligation be implemented.

Threats to the environment are endangering bios. We cannot take any more risks as local problems cross national boundaries quickly. It is for this reason that the Biopolitics International Organisation (B.I.O.) held its first international conference on "Biopolitics and International Cooperation - the Bio-Environment". The term "bio-environment" is meant to increase awareness to the threats imposed on all forms of "bios" rather than on "oikos" (house), as used in ecology. This second B.I.O. International Conference on "Biopolitics - Bios in the Next Millennium", deals mainly with the bio-environment.

### *Wheel of the Environment*

Out of radiant light and energy  
arise new forms  
orderly connections  
and communications blossom

Out of molecular attractions  
in a primordial soup  
sprout origins of life

Despite recapitulation  
new dimensions lead to variety  
the wheel of the environment leads  
to evolution

Is this a game of choices  
of unlimited combinations  
or an ordered pathway  
in the crossroads of infinity?

(Dr. Agni Vlavianos-Arvanitis, *Oscillations*, 1983).

The threats to bios are increasing dramatically. Urgent action is required in the following areas of global concern:

- Species are endangered by extinction. By the end of this century, one species may disappear every 20 minutes. Out of 30 million species less than 2 million have been identified.

Polluted waters have resulted in 80% of childhood deaths in Third World countries.

- Rain forests host the majority of the world's species of animals and plants. Close to 11 million hectares of rain forest are destroyed yearly.
- The ozone layer of the atmosphere is being threatened. Bios evolved for hundreds of millions of years under the water. It was the prolonged formation of oxygen through photosynthetic organisms that formed the ozone layer. Thanks to photosynthesis land-life became possible. The destruction of the forests, toxic substances in the water destroying photosynthetic algae, and toxic chemicals in the air, are rapidly destroying the ozone layer thus allowing ultraviolet radiation to damage genetic material. Pollution by CFC chemicals comes from aerosols, air-conditioning systems and plastic foam cartons. A hole the size of the USA has developed in the ozone layer over the Antarctic.
- Soil erosion increases rate of desertification and degradation. About 25 billion tonnes of topsoil are lost from cropland each year.
- The greenhouse effect causes a gradual rise in temperature resulting in sea level rise thereby endangering many cities.
- Acid rain causes extensive damage to historical monuments and forests.
- Nuclear waste increases the risk of rising radiation levels in the environment.

## Conclusion

B.I.O. has chosen "Bios in the Next Millennium" as the theme for all its meetings. At this Second International Conference of the Biopolitics International Organisation (B.I.O.), decision makers from around the world explored new dimensions of technology and ethics as they relate to the "Bios Theory". Special emphasis was placed on the participation of youth. Young people of outstanding achievements presented their views. The challenge of future dimensions relating to ethical values, theology, philosophy, health, nutrition, the bio-environment, bio-arts, bio-literature, bio-architecture, bio-communication, bio-linguistics, bio-agriculture, bio-athletics, bio-economics, bio-legislation, was examined.

Bios has evolved in hundreds of millions of years. If we consider the evolution of bios as a 24 hour day, the appearance of human beings is realized during the last few minutes. Let us hope that our presence will not lead to midnight, but to the dawn of hope, since technology offers the expansion of human potential. A new vision is required for the next millennium, which represents only a few seconds in terms of bios' evolution. We possess the knowledge to provide abundant nourishment to all the children of the world and heal our planet of the wounds to the bio-environment. We possess satellites that may be used for immediate information and education of the public on problems concerning bios.

In conclusion, one realizes that man possesses the option for alternative futures. The rapid rate of technological advancement provides the ascending ladder of knowledge and the linking bridge between the present and the future. Biopolitics may serve as an ideal pathway leading to the fulfillment of peace and the revelation of harmony.

### *Harmony*

With wings of the soul  
I touch the golden waves of infinity  
around, heavenly beauty like light  
sparkles rays with colors 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

(Dr. Agni Vlavianos-Arvanitis, 1984)

## REFERENCES

1. Vlavianos-Arvanitis A., "Biopolitics - Dimensions of Biology", European Philosophy Conference on Man in the Age of Technology, Athens, June 24-28, 1985.
2. Vlavianos-Arvanitis A., "Biopolitics - A Pathway for International Cooperation", presented at World Federation of United Nations Associations meeting in Berlin, GDR, September 8-11, 1986, published in Bulletin of the Greek Association For The United Nations, November 1986.
3. Vlavianos-Arvanitis, A., "Dimensions of Biopolitics", in Proceedings: First International Conference on Biopolitics - The Bio Environment, held in May 1987, Athens, 1988.
4. Vlavianos-Arvanitis, A., "Biopolitics - Bios in the Next Millennium" Introduction to the Right Honourable Lord Ennals speech at the British Council, Athens, May 1988.

**Dr. Agni Vlavianos-Arvanitis** founded B.I.O. in 1985, after having dedicated over 20 years to teaching and research in biology. In 1990, she launched the International University for the Bio-Environment and, in 1992, a campaign for Bios Prizes and cease-fire during the Olympics. A recipient of many high distinctions, she was elected, along with M. Gorbachev, N. Mandela and M. Strong, Honorary President for Life by the UNA of Sri Lanka, and is also an Abdi Ipekci Peace and Friendship Prize laureate. She is Vice President of the International Bioethics Society, Member of the *Journal of Cleaner Production* Advisory Board, Member of the Board of Trustees of the Uganda National Foundation for Research and Development, Vice President of the UNESCO-MAB Hellenic National Committee, Commissioner on the Global Commission to Fund the UN, Corresponding Member of the Pontifical Academy for Life, Member of the New York Academy of Sciences, the International Academy of Ecology, Human and Nature Safety Sciences, the Hellenic Philosophical Society and the National Society of Greek Writers. Author of poetry books, she is also Honorary Professor of St. Petersburg State University for Plant Polymers and *Doctor Honoris Causa* of Mendeleyev University. In 1995 she was nominated for the Nobel Peace Prize, a nomination renewed in 1997, 1998, 1999 and 2000.